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**Bibliography.**

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Summary.

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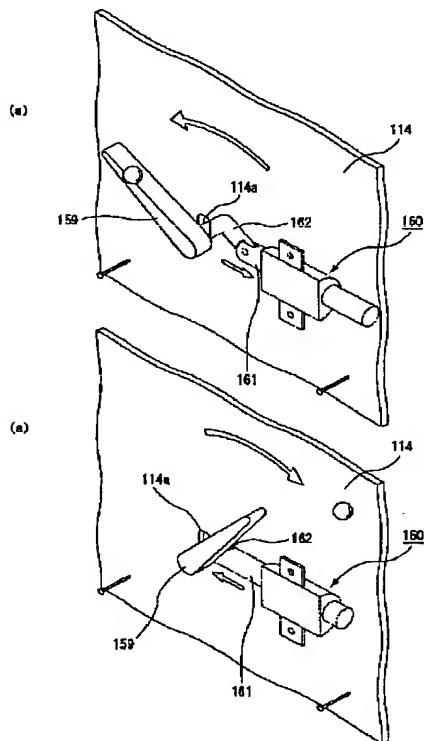
(57) [Abstract]

[Technical problem] While being able to give the movement which has unexpected nature in the game sphere hammered out by the game board, being able to impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere to a game person and making interest to the extent that it cannot look aside to the whereabouts of a game sphere have further When you can give the hope about whether a game sphere goes into a winning-a-prize mouth etc. and a game sphere goes into a winning-a-prize mouth etc., uplift a game person's feeling of fullness and feeling of achievement, and offer the game machine which can aim at fast improvement in interest.

[Means for Solution] The game machine characterized by preparing the rod-like structure which moves reciprocately centering on one point on the game board.

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**CLAIMS**

[Claim(s)]

[Claim 1] That to which the size was fixed with the winning-a-prize mouth which a number of game spheres defined beforehand pay out when the game sphere hammered out on the game board enters. What will be in an open state intermittently

under predetermined conditions. It is the game machine equipped with the above, and is characterized by preparing the rod-like structure to which the whole surface moves reciprocally centering on one point in the non-contact state in contact with this game board on the aforementioned game board.

[Claim 2] The aforementioned rod-like structure is a game machine according to claim 1 which operates by the solenoid installed in the aforementioned game board.

[Claim 3] The game machine according to claim 1 or 2 constituted by a tilt angle and a bird clapper fixed as the aforementioned rod-like structure is reciprocating movement so that a game sphere might be guided to a winning-a-prize mouth.

[Claim 4] The game board is the game machine of the publication by any 1 of the claims 1-3 have the display as which a screen picture including the identification-information picture and the production picture which consists of two or more change patterns in which of it is indicated by change and a halt indication of each may be further given to predetermined timing is displayed, and the starting mouth with which the change display of the aforementioned change pattern is started under a predetermined condition when the game sphere hammered out on the aforementioned game board enters.

[Claim 5] The game machine according to claim 4 constituted by a tilt angle and a bird clapper fixed as the aforementioned rod-like structure is reciprocating movement so that a game sphere might be guided to a starting mouth or a winning-a-prize mouth.

[Claim 6] It is the storage which stores the control program on which the screen picture which consists of a picture which combined a dynamic image, a static picture image, or these suitably according to the game situation of a game machine is displayed and in which computer reading is possible. The aforementioned control program is the winning-a-prize mouth picture judged that the game sphere picture entered in the picture, when a game board picture, the game sphere picture equivalent to a game sphere, and the aforementioned game sphere picture lap with the picture. It is the program on which that to which the size was fixed, and the thing which will be in an open state intermittently [ when predetermined conditions are satisfied ] are displayed as the aforementioned screen picture. Furthermore, the storage characterized by displaying the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocally centering on one point into the aforementioned game board picture.

[Claim 7] When it is the server on which the picture which shows the game state of a game machine to each terminal is displayed as a screen picture and a game board picture, the game sphere picture equivalent to a game sphere, and the aforementioned game sphere picture lap with the picture at least, While displaying that to which the size was fixed, and the thing which will be in an open state intermittently [ when predetermined conditions are satisfied ] as the aforementioned screen picture by the winning-a-prize mouth picture judged that the game sphere picture entered in the picture The server characterized by displaying the rod-like

structure picture which is equivalent to a rod-like structure in the mode which moves reciprocately centering on one point into the aforementioned game board picture.

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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to a game machine, a storage, and servers, such as pachinko game equipment.

[0002]

[Description of the Prior Art] Pachinko game equipment is known as a game machine which hammers out a game sphere and performs a game on the game board from the former. If the winning-a-prize mouth, the large winning-a-prize mouth, the starting mouth, etc. are prepared on the game board (henceforth a winning-a-prize mouth etc.) and the game sphere hammered out on the game board goes into a winning-a-prize mouth etc., such pachinko game equipment By a number of game spheres defined beforehand paying out, or starting a predetermined game etc., it is constituted so that predetermined profits and an advantageous predetermined state may be offered to a game person. Moreover, the out mouth is prepared in this game board bottom, and the game sphere which did not go into a winning-a-prize mouth etc. will be discharged from this out mouth.

[0003] Further two or more obstacle nails, the rolling flare-part material which imitated the wind mill are prepared in such the game board, and the game sphere hammered out on the game board falls to the game board down side by the collision with an obstacle nail, rolling flare-part material, etc., changing the travelling direction. Therefore, taking into consideration arrangement of an obstacle nail, rolling flare-part material, etc., on the game board, a game person hammers out a game sphere and performs a game so that a discharge handle may be operated and a game

sphere may go into a winning-a-prize mouth etc.

[0004]

[Problem(s) to be Solved by the Invention] Since pachinko game equipment is constituted so that the game sphere hammered out on the game board by preparing two or more obstacle nails, rolling flare-part material, etc. may fall colliding with them as mentioned above, a game person follows the whereabouts of the falling game sphere, and he is performing the game, expecting that a game sphere goes into a winning-a-prize mouth etc.

[0005] However, although the game sphere hammered out on the game board has some rebound phenomenon by the collision with an obstacle nail, rolling flare-part material, etc., in order to fall below according to gravity in principle, the movement of a game sphere was what can be predicted comparatively easily, when it was the game expert who lacks in unexpected nature and became skillful in the game.

Therefore, when neither an unexpected feeling nor \*\*\*\*\* was sensed for the movement of a game sphere and the game was being performed over the long time, it becomes impossible for the game person to have held interest and the hope in the whereabouts of a game sphere, and he had the problem of getting bored with a game.

[0006] this invention is made in view of the technical problem mentioned above. the purpose Can give the movement which has unexpected nature in the game sphere hammered out by the game board, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere have When the hope about whether a game sphere goes into a winning-a-prize mouth etc. can be given and a game sphere goes into a winning-a-prize mouth etc., a game person's feeling of fullness and feeling of achievement are uplifted, and it is in offering the game machine, storage, and server which can aim at fast improvement in interest.

[0007]

[Means for Solving the Problem] In order to attain the above purposes, this invention is characterized by preparing the rod-like structure to which the whole surface is in a non-contact state, and moves reciprocally centering on one point in contact with this game board on the game board.

[0008] More specifically, this invention offers the following.

(1) When the game sphere hammered out on the game board enters, with the winning-a-prize mouth which a number of game spheres defined beforehand pay out It is the game machine equipped with that to which the size was fixed, and the thing which will be in an open state intermittently under predetermined conditions, and is characterized by preparing the rod-like structure to which the whole surface moves reciprocally centering on one point in the non-contact state in contact with this game board on the above-mentioned game board.

[0009] As the rod-like structure prepared on the game board moves reciprocally centering on one point, when it operates like the so-called wiper according to

invention of (1), complicated movement with the unexpected nature a game person cannot predict the game sphere which collided with the rod-like structure concerned to be to the game sphere hammered out on the game board, such as rebounding to above or a longitudinal direction, for example, either can be given. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere have When the hope about whether a game sphere goes into a winning-a-prize mouth etc. can be given and a game sphere goes into a winning-a-prize mouth etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and fast improvement in interest can be aimed at.

[0010] Moreover, it can make it possible to once launch the game sphere which fell to the game board bottom to a game board top with the position in which a rod-like structure is prepared, the angle at which this rod-like structure moves reciprocally, the sense, etc. A hope can be made to hold again in the whereabouts of the game sphere given up to a game person by doing in this way.

[0011] this invention offers further the following.

(2) It is a game machine given in the above (1), and the above-mentioned rod-like structure is characterized by operating by the solenoid installed in the game board.

[0012] The game machine of this invention with which the rod-like structure which moves reciprocally centering on one point is prepared can be obtained without using the equipment which has a complicated mechanism, since a rod-like structure can be made to move reciprocally using the solenoid used for the winning-a-prize mouth of a game machine etc. from the former according to invention of (2).

Therefore, it becomes possible to hold down the manufacturing cost of a game machine.

[0013] this invention offers further the following.

(3) It is a game machine the above (1) or given in (2), and as the above-mentioned rod-like structure is reciprocating movement, it is characterized by being constituted by a fixed tilt angle and a fixed bird clapper so that a game sphere may be guided to a winning-a-prize mouth.

[0014] In order that according to invention of (3) a rod-like structure may serve as a fixed tilt angle and may guide a game sphere to a winning-a-prize mouth in the middle of reciprocating movement, a game person If can put a game sphere into a winning-a-prize mouth, and a rod-like structure will serve as a fixed tilt angle especially, if a game sphere is hammered out on the game board according to the timing, and the time of a winning-a-prize mouth being in an open state is aimed at and a game sphere is hammered out, a game sphere can be put into a winning-a-prize mouth by very high probability. Thus, since the advantageous state for the game person who is not in the former to predetermined timing is offered, a game person can enjoy a game over a long time, without being able to aim at the timing, being able to hammer out a game sphere, being able to enjoy a game, and sensing

weariness for a game.

[0015] this invention offers further the following.

(4) The above (1) It is a game machine given in any 1 of - (3). the game board Furthermore, the display as which a screen picture including the identification information picture and production picture which consist of two or more change patterns in which it is indicated by change and a halt indication of each may be given to predetermined timing is displayed, When the game sphere hammered out on the above-mentioned game board enters, it is characterized by equipping the bottom of a predetermined condition with the starting mouth with which the change display of the above-mentioned change pattern is started.

[0016] Since it has the display as which a screen picture including the identification-information picture which consists of two or more change patterns, or a production picture is displayed, and the starting mouth according to invention of (4), production expression on which production pictures, such as an animation which has the narrativeness which can perform the game which imitated the game made in a slot machine which is performed with the usual game machine, and heaps up a game, display can carry out. Consequently, it can carry out skilled [ of the game ] over a long period of time, without impressing that it can poke up weariness for the interest over a game person's game.

[0017] this invention offers further the following.

(5) It is a game machine given in the above (4), and as the above-mentioned rod-like structure is reciprocating movement, it is characterized by being constituted by a fixed tilt angle and a fixed bird clapper so that a game sphere may be guided to a starting mouth or a winning-a-prize mouth.

[0018] In order that according to invention of (5) a rod-like structure may serve as a fixed tilt angle and may guide a game sphere to a starting mouth or a winning-a-prize mouth in the middle of reciprocating movement, a game person If can put a game sphere into a winning-a-prize mouth or a starting mouth, and a rod-like structure will serve as a fixed tilt angle especially, if a game sphere is hammered out on the game board according to the timing, and the time of a winning-a-prize mouth being in an open state is aimed at and a game sphere is hammered out, a game sphere can be put into a winning-a-prize mouth by very high probability. Thus, since the advantageous state for the game person who is not in the former to predetermined timing is offered, a game person can enjoy a game over a long time, without being able to aim at the timing, being able to hammer out a game sphere, being able to enjoy a game, and sensing weariness for a game.

[0019] this invention offers further the following.

(6) It is the storage which stores the control program on which the screen picture which consists of a picture which combined a dynamic image, a static picture image, or these suitably according to the game situation of a game machine is displayed and in which computer reading is possible. The above-mentioned control program is the winning-a-prize mouth picture judged that the game sphere picture entered in the



picture, when a game board picture, the game sphere picture equivalent to a game sphere, and the above-mentioned game sphere picture lap with the picture. It is the program on which that to which the size was fixed, and the thing which will be in an open state intermittently [ when predetermined conditions are satisfied ] are displayed as the above-mentioned screen picture. Furthermore, it is characterized by displaying the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocately centering on one point into the above-mentioned game board picture.

[0020] According to invention of (6), a rod-like structure picture is displayed into a game board picture in the mode which moves reciprocately centering on one point. for example, the game sphere picture it was made to display that collided with the rod-like structure picture concerned — a longitudinal direction — bounding — \*\*\*\*\* — making it display like etc. Complicated movement with the unexpected nature which a game person cannot predict to a game sphere picture, either can be given and displayed, without giving a game person sense of incongruity etc. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere picture to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere picture have When the hope about whether a game sphere picture enters can be given to a winning-a-prize mouth picture etc. and a game sphere picture goes into a winning-a-prize mouth picture etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and the storage which can aim at fast improvement in interest can be offered.

[0021] Moreover, the game sphere picture which moved to the game board picture bottom can once be displayed in the mode launched to a game board picture top with the position on which a rod-like structure picture is displayed, the angle at which this rod-like structure picture moves reciprocately, the sense, etc., without giving a game person sense of incongruity etc. A hope can be made to hold again in the whereabouts of the game sphere picture given up to a game person by doing in this way.

[0022] this invention offers further the following.

(7) When it is the server on which the picture which shows the game state of a game machine to each terminal is displayed as a screen picture and a game board picture, the game sphere picture equivalent to a game sphere, and the above-mentioned game sphere picture lap with the picture at least, While displaying that to which the size was fixed, and the thing which will be in an open state intermittently [ when predetermined conditions are satisfied ] as the above-mentioned screen picture by the winning-a-prize mouth picture judged that the game sphere picture entered in the picture It is characterized by displaying the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocately centering on one point into the above-mentioned game board picture.

[0023] According to invention of (7), a rod-like structure picture is displayed into a

game board picture in the mode which moves reciprocately centering on one point. for example, the game sphere picture it was made to display that collided with the rod-like structure picture concerned — a longitudinal direction — bounding — \*\*\*\*\* — making it display like etc. can give and display complicated movement with the unexpected nature which a game person cannot predict in a game sphere picture, either, without giving a game person sense of incongruity etc. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere picture to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere picture have When the hope about whether a game sphere picture enters can be given to a winning-a-prize mouth picture etc. and a game sphere picture goes into a winning-a-prize mouth picture etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and the storage which can aim at fast improvement in interest can be offered.

[0024] Moreover, the game sphere picture which moved to the game board picture bottom can once be displayed in the mode launched to a game board picture top with the position on which a rod-like structure picture is displayed, the angle at which this rod-like structure picture moves reciprocately, the sense, etc., without giving a game person sense of incongruity etc. A hope can be made to hold again in the whereabouts of the game sphere picture given up to a game person by doing in this way.

[0025] The sphere receptacle with which opening for [being prepared with a definition of term etc.] on the game board "a winning-a-prize mouth", and receiving a game sphere in the bottom was formed is said. Usually, opening for discharging the game sphere included in this winning-a-prize mouth from the game board is prepared in the part in which the above-mentioned winning-a-prize mouth was prepared at the above-mentioned game board. Moreover, detection meanses (for example, sensor etc.) to detect that the game sphere went into this winning-a-prize mouth are prepared in the above-mentioned winning-a-prize mouth, and when the above-mentioned detection means detects that the game sphere went into this winning-a-prize mouth, a number (for example, five spheres) of game spheres defined beforehand will pay out.

[0026] "That (winning-a-prize mouth) to which the size was fixed" means the winning-a-prize mouth which does not have movable portions (for example, movable piece prepared in the circumference of a sphere receptacle) among the winning-a-prize mouths mentioned above. The winning-a-prize mouth with which "what will be in an open state intermittently under predetermined conditions (winning-a-prize mouth)", on the other hand, says the winning-a-prize mouth which has a movable portion among the winning-a-prize mouths mentioned above, for example, the movable piece is prepared in the both sides of right and left of a sphere receptacle can be mentioned.

[0027] Thus, by the winning-a-prize mouth with which the movable piece is prepared

in the both sides of right and left of a sphere receptacle, the solenoid is usually connected to this movable piece. And by supplying power to the bottom of a predetermined condition at this solenoid, as a game sphere tends to go into a winning-a-prize mouth and becomes it, a movable piece operates, a winning-a-prize mouth will be in an open state, or as a game sphere cannot go into a winning-a-prize mouth easily and becomes it, a movable piece operates and a winning-a-prize mouth will be in a synzesis state. If the position and length of a rod-like structure are set up so that it may become the angle into which the game sphere which fell to the rod-like structure tends to go when the above-mentioned winning-a-prize mouth changes into an open state, a game person can put many game spheres into a winning-a-prize mouth at once. When a rod-like structure becomes the angle which is easy to go into a winning-a-prize mouth, you may be made to carry out a fixed time halt. In the following explanation, the winning-a-prize mouth with which it will be in an open state intermittently under predetermined conditions with a sufficient general winning-a-prize mouth about the winning-a-prize mouth with which the size was fixed is specially considered also as a winning-a-prize mouth, and a general winning-a-prize mouth and a special winning-a-prize mouth are only further considered also as a winning-a-prize mouth. Moreover, in the game machine with which the large winning-a-prize mouth which will be in an open state intermittently in a great success state is prepared, this large winning-a-prize mouth corresponds to the winning-a-prize mouth in the game machine of this invention.

[0028] It says "it moves reciprocately centering on one point", and repeating reciprocating movement with a predetermined period like the so-called wiper. In addition, the whole surface may be in contact with this game board, and the rod-like structure which moves reciprocately centering on one point may be in a non-contact state. a "solenoid" — electromagnetism — the portion which changes electric energy into mechanical rectilinear motion, and serves as the object by the magnetic action of a coil — receiving — the force and a variation rate — the actuator (starting device) which can offer an amount is said As a solenoid which can be used for the game machine of this invention, a push pull type solenoid, a hinge type solenoid, a latching type solenoid, etc. can be mentioned, for example. Moreover, the rotary solenoid which has the mechanism in which mechanical rectilinear motion is further changed into rotation can also be used for the game machine of this invention. In addition, in this invention, although especially the equipment made to move reciprocately centering on one point to a rod-like structure is not limited, it is desirable to make it move reciprocately centering on one point by the solenoid. It is because the game machine of this invention with which the rod-like structure which moves reciprocately centering on one point is prepared can be obtained without using the equipment which has a complicated mechanism since a rod-like structure can be made to move reciprocately by using the solenoid used for the winning-a-prize mouth of a game machine etc. from the former, and is because it becomes possible to hold down the manufacturing cost of a game machine. Hereafter, "the

rod-like structure which moves reciprocally centering on one point" is explained using drawing 1 - drawing 3 about how to make it operate by the "solenoid" installed in the game board. In addition, in drawing 1 - drawing 3, the white arrow shows the direction where a solenoid or a rod-like structure operates.

[0029] First, an example of the game machine of this invention with which the push pull type solenoid was prepared is explained using drawing 1. Drawing 1 (a) - (b) is the perspective diagram showing typically a part of game board with which the game machine of this invention was equipped. In addition, drawing 1 (a) shows the state where the solenoid prepared in the above-mentioned game board was excited, and drawing 1 (b) shows the state where the above-mentioned solenoid was demagnetized.

[0030] As shown in drawing 1 (a), the solenoid 160 is formed in the tooth back of the game board 114 with which the game machine was equipped. In addition, the plunger 161 arranged inside a solenoid 160 arranges a solenoid 160 so that it may be horizontally suitable, and so that it may become parallel to the game board 114 -- having -- \*\*\*\* -- the nose of cam of a plunger 161 -- connection of a L character configuration -- the end of a member 162 is connected free [ rotation ] moreover, connection -- the connection to which, as for the member 162, the other end was formed in the game board 114 -- a member -- insertion -- a hole -- the connection which fitted loosely into 114a and fitted in loosely -- the rod-like structure 159 is being fixed at the nose of cam of a member 162 in the game board 114 and the non-contact state connection -- a member -- insertion -- hole 114a -- connection -- metal frame part material may be inserted in so that it may be easy to rotate a member 162

[0031] The energization member (not shown) which consists of a coil spring etc. is prepared in the interior of a solenoid 160. the state where the solenoid 160 is not excited -- setting -- a plunger 161 -- this energization -- although it is energized by the energization force of a member so that it may project leftward, since the solenoid 160 is excited, it is shown in drawing 1 (a) -- as -- the above-mentioned energization -- the energization force of a member is resisted and the plunger 161 is moving rightward it -- following -- a rod-like structure 159 -- connection -- connection of a member 162 -- a member -- insertion -- a hole -- the upper limit will be in the state where it inclined leftward, centering on the part inserted in 114a Moreover, as shown near the upper limit of a rod-like structure 159 at drawing 1 (a), a game sphere collides.

[0032] when this game sphere collides and a solenoid 160 is demagnetized, it is shown in drawing 1 (b) -- as -- the above-mentioned energization -- while a plunger 161 projects leftward according to the energization force of a member -- a rod-like structure 159 -- connection -- connection of a member 162 -- a member -- insertion -- a hole -- it rotates clockwise centering on the part inserted in 114a Furthermore, when a rod-like structure 159 rotates clockwise rapidly, the game sphere which had collided at the nose of cam of a rod-like structure 159 is flown in

the direction of the upper right, as shown in drawing 1 (b).

[0033] by repeating excitation and demagnetization of a solenoid 160 which were mentioned above shows to drawing 1 (a) and (b) — as — a rod-like structure 159 — connection — connection of a member 162 — a member — insertion — a hole — centering on the part inserted in 114a, and the upper limit will move reciprocally by inclining rightward [ inclining leftward ]

[0034] Next, the game machine of this invention with which the hinge type solenoid was prepared is explained using drawing 2 . Drawing 2 (a) is the cross section showing typically a part of game board with which the game machine of this invention was equipped, and (b) is the perspective diagram. Drawing 2 (a) - (b) shows the state where the solenoid prepared in the above-mentioned game board was excited. Drawing 2 (c) is the cross section showing typically a part of above-mentioned game board similarly, and (b) is the perspective diagram. However, drawing 2 (c) - (d) shows the state where the solenoid prepared in the above-mentioned game board was demagnetized unlike drawing 2 (a) - (b).

[0035] As shown in drawing 2 (a), while a solenoid 260 is arranged in the tooth back of the game board 214 with which the game machine was equipped, a solenoid 260 adsorbs in a movable plate 261, and, thereby, the movable plate 261 is arranged in parallel with the game board 214 at it. moreover, the center of a movable plate 261 — a portion a little below — transfer — when both see from the side, a member 263 fixes to a movable plate 261 so that it may become cross-like — having — \*\*\*\* — this transfer — the left end of a member 263 is supported by the lower part of a solenoid 260 free [ rotation ] moreover, this transfer — the transfer to which the right end of a member 263 was formed in the game board 214 — a member — insertion — a hole — closed-end [ which was prepared in the lower part of a rod-like structure 259 while being inserted in 214b / long and slender ] — it has fitted loosely into the hole closed-end [ of a rod-like structure 259 ] — a hole — a few — closed-end [ into the upper portion / still more nearly another ] — the bolt insertion which the hole was prepared and was prepared in the game board 214 — a hole — bolt 259a inserted in 214a — the above-mentioned closed-end one — the rod-like structure 259 which was fitted in and fixed to the hole and was prepared in the front face of the game board 214 by this can be rotated now centering on the portion to which bolt 259a was fixed In addition, all over drawing, the member for forming a solenoid 260 in the tooth back of the game board 214 etc. is not illustrated.

[0036] Moreover, the coil spring 262 is formed in the solenoid 260 at the bottom, and the right end of this coil spring 262 is combined with the soffit of a movable plate 261. Therefore, although it will be inclined so that, as for a movable plate 261, the upper limit may become the game board 214 with the tensile force of a coil spring 262 in the state where the solenoid 260 is not excited closely, since the solenoid 260 is excited, as it is shown in drawing 2 (a), the tensile force of a coil spring is resisted, a solenoid 260 is adsorbed in a movable plate 261, and it is in the state parallel to the game board 214. and the movement that a solenoid 260 is

adsorbed in a movable plate 261 -- transfer -- it tells a member 263 -- having -- transfer -- a member 263 becomes level, this movement is transmitted to a rod-like structure 259, and a rod-like structure 259 will be in the state where the nose of cam inclined leftward, centering on a bolt 259a portion. Moreover, as shown in drawing 2 (b), a game sphere collides at the nose of cam of a rod-like structure 259. [0037] If a solenoid 260 is demagnetized at this time, it will be in the state where it inclined with the tensile force of a coil spring 262 so that the upper limit of a movable plate 261 might become the game board 214 closely, as [ show / in drawing 2 (c) ]. and the movable plate 261 -- the game board 214 -- near -- the movement of inclining like -- transfer -- it tells a member 263 -- having -- transfer -- it inclines so that the right end of a member 263 may turn down, and this movement transmits to a rod-like structure 259 -- having -- a clockwise rotation -- rotating -- a rod-like structure 259 -- a shaft [ a / bolt 259 ] -- abbreviation -- it will be in a perpendicular state. Furthermore, the game sphere which collided at the nose of cam of a rod-like structure 259 is flown rightward, when a rod-like structure 259 rotates rapidly clockwise (refer to drawing 2 (d)).

[0038] By repeating excitation and demagnetization of a solenoid 260 which were mentioned above, as shown in drawing 2 (b) and (d), and a rod-like structure 259 will move reciprocally by the nose of cam serving as an abbreviation perpendicular centering on bolt 259a. [ inclining leftward ]

[0039] Next, the game machine of this invention with which the rotary solenoid was prepared is explained using drawing 3. Drawing 3 (a) - (b) is the perspective diagram showing typically a part of game board with which the game machine of this invention was equipped. In addition, drawing 3 (a) shows the state where the solenoid prepared in the above-mentioned game board was excited, and drawing 3 (b) shows the state where the above-mentioned solenoid was demagnetized.

[0040] the shaft insertion to which the solenoid 360 is being fixed to the tooth back of the game board 314 with which the game machine was equipped so that the shaft 361 arranged inside a solenoid 360 may become perpendicular to the game board 314, and the shaft 361 was formed in the game board 314 as shown in drawing 3 (a) -- a hole -- while inserting in 314a, the rod-like structure 359 is being fixed at the nose of cam

[0041] Moreover, the energization member (not shown) is prepared in the interior of a solenoid 360. the state where the solenoid 360 is not excited -- setting -- a shaft 361 -- this energization -- although it is energized by the energization force of a member so that it may rotate rightward, since the solenoid is excited, it is shown in drawing 3 (a) -- as -- the above-mentioned energization -- the energization force of a member is resisted and the shaft 361 is rotating leftward. In connection with it, a rod-like structure 359 will be in the state where the nose of cam inclined leftward, centering on a shaft 361. Moreover, a game sphere collides with a rod-like structure 359.

[0042] when a solenoid 360 is demagnetized at this time, it is shown in drawing 3 (b)

-- as -- the above-mentioned energization -- according to the energization force of a member, while a shaft 361 rotates clockwise, a rod-like structure 359 also rotates clockwise rapidly centering on a shaft 361. Furthermore, when a rod-like structure 359 rotates clockwise, the game sphere which inclined at the nose of cam of a rod-like structure 359 is flown rightward, as shown in drawing 3 (b).

[0043] By repeating excitation and demagnetization of a solenoid 360, as mentioned above, as shown in drawing 3 (a) and (b), centering on a shaft 361, and a rod-like structure 359 will move reciprocally by the nose of cam inclining rightward.

[ inclining leftward ]

[0044] Although the rod-like structure is moving reciprocally centering on one point in the example shown in drawing 1 - drawing 3 so that tracing may be drawn above this one point. Centering on one point, it is not necessary to necessarily, move reciprocally in this invention, so that tracing may be drawn above this one point. It is good also as moving reciprocally centering on one point, so that tracing may be drawn below this one point, is good also as moving reciprocally so that tracing may be drawn on left-hand side or right-hand side, and is good also as moving reciprocally further, so that it may rotate 360 degrees of abbreviation centering on one point. However, it is desirable to move reciprocally so that a rod-like structure may draw tracing which contains above this one point at least centering on one point in the game machine of this invention. The book that it is because it becomes easy to give complicated movement with the unexpected nature with which a rod-like structure becomes easy to collide with the game sphere which falls from the upper part, and cannot predict a game person to be in a game sphere, either, and an unexpected feeling and \*\*\*\*\* can be impressed in the movement of a game sphere to a game person.

[0045] Moreover, especially the angle at which a rod-like structure moves reciprocally is not limited, and the speed at which a rod-like structure moves reciprocally is not limited especially, either. Moreover, the angle and speed which move reciprocally are good also as changing to the predetermined timing which does not always need to be fixed. Moreover, once stopping in the middle of reciprocating movement, you may set up the movement mode so that it may begin to move again.

[0046] Moreover, while not being limited and performing the game, especially the timing to which a rod-like structure moves reciprocally is good also as always moving reciprocally, and after a game sphere goes into a predetermined winning-a-prize mouth, it can also set up the conditions for reciprocating movement, such as moving reciprocally only during a fixed period, being performed. Furthermore, when the above-mentioned winning-a-prize mouth changes into an open state, the aforementioned rod-like structure may set up the timing of the reciprocating movement so that it may move reciprocally to timing toward which a rod-like structure inclines so that it may become the angle into which the game sphere which fell to the rod-like structure tends to go.

[0047] Furthermore, if the configuration of the above-mentioned rod-like structure is a configuration which can rebound the game sphere which collided with the rod-like structure concerned to above or a longitudinal direction, it will not be limited to the configuration shown in drawing 1 - drawing 3 . Moreover, it is good also as a thing of a configuration which carries out making an appearance into the shape of a smooth curve etc., for example, and has ornament beauty.

[0048] It says [ the game sphere which collided with this rod-like structure tending to go into a winning-a-prize mouth or a starting mouth, and making it become it, and ] by stopping the above-mentioned rod-like structure in the state where of it was made to incline at a fixed angle etc. so that a starting mouth or a winning-a-prize mouth may exist on the abbreviation extension wire of the rod-like structure "which guides a game sphere to a starting mouth or a winning-a-prize mouth by a fixed tilt angle and a fixed bird clapper as a rod-like structure is reciprocating movement." However, a fixed tilt angle and a fixed bird clapper do not necessarily say stopping with a fixed tilt angle. Therefore, the game machine with which the position in which the above-mentioned rod-like structure is prepared, the angle at which this rod-like structure moves reciprocately were set up so that it might become the angle which guides a game sphere to a starting mouth or a winning-a-prize mouth while the rod-like structure was moving reciprocately centering on one point also corresponds to the game machine of this invention which guides a game sphere to a starting mouth or a winning-a-prize mouth by a fixed tilt angle and a fixed bird clapper, as a rod-like structure is reciprocating movement.

[0049]

[Embodiments of the Invention] The example of this invention is explained based on a drawing. Suppose that the game machine which equipped the game board with the push pull type solenoid, and was further equipped with the display and the starting mouth is explained in the following explanation.

[0050] Drawing 4 is the front view showing the game machine of this invention typically. In addition, in the example explained below, the case where this invention is applied to pachinko game equipment is shown as a suitable example of the game machine concerning this invention.

[0051] The discharge handle 26 and \*\* which were prepared in the right-hand side of the main part frame 12, the game board 14 included in the main part frame 12, the window frame 16 of the main part frame 12 prepared in the front face of the game board 14, the upper pan 20 and the lower pan 22 prepared in the front face of the main part frame 12 with the window frame 16 down side, and the lower pan 22 are arranged at pachinko game equipment 10.

[0052] Moreover, two or more obstacle nails (not shown) are driven into the front face of the game board 14. In addition, it does not consider as composition which drives in a nail, but the game board 14 is fabricated for a resin material, it is good also as composition implanted so that a metal metal rod-like structure may be projected in the game board 14 of this resin material at the front of the game board



14, and this invention can be applied also to pachinko game equipment 10 (party contest machine) which was mentioned above. In addition, in this specification, it is a concept also containing a party contest machine in pachinko game equipment 10.

[0053] Furthermore, the discharge handle 26 is formed free [ rotation ] to the main part frame 12, and the game person can advance the pachinko game by operating the discharge handle 26. The discharge motor 28 is formed in the background of the discharge handle 26. When rotation operation of the discharge handle 26 is done by the game person in the direction of a clockwise rotation, power is supplied to the discharge motor 28 and the game sphere stored by the upper pan 20 is discharged one by one by the game board 14.

[0054] The discharged game sphere is guided at the guide rail 30 prepared on the game board 14, moves to the upper part of the game board 14, and after that, changing the travelling direction by the collision with two or more obstacle nails mentioned above, the game board 14 goes caudad and it falls. Moreover, five rod-like structures 59 (59a-59e) are formed in the game board 14. In addition, about a rod-like structure, it will explain in full detail according to the time of explaining the game board using drawing 5 .

[0055] Drawing 5 is the expansion front view showing the game board 14 typically. In addition, the same sign was given to the component shown in drawing 4 mentioned above, and the corresponding component. Moreover, drawing 5 showed what was omitted about the obstacle nail mentioned above.

[0056] The display 32 which is the \*\*\*\* display mentioned later is formed in the center of abbreviation of the front face of the game board 14. Display 52 is formed in the center of the upper part of this display 32. This display 52 consists of for example, 7 segment drops, and an adjustable indication of the common pattern which is display information is given so that change and a halt may be repeated. The sphere passage detectors 55a and 55b are formed in the flank of right and left of display 32. This sphere passage detector 55a or 55b usually suspends the change display of a pattern, after the change display of a pattern is usually started and predetermined carries out time progress in the display 52 mentioned above, when it detects that the game sphere passed through the near. Usually, a pattern is this information that consists of a number, a sign, etc., for example, are signs, such as numbers from "0" to "9", and "\*." When a pattern usually turns into this predetermined pattern, "7", it stops and it is displayed, [ for example, ] Current is supplied to the solenoid 57 (not shown) for driving the movable pieces 58a and 58b prepared in the both sides of right and left of the starting mouth 44 mentioned later, the movable pieces 58a and 58b are driven so that a game sphere may tend to go into the starting mouth 44 and may become it, and the starting mouth 44 is made to be in an open state. In addition, when predetermined time passes after making the starting mouth 44 into an open state, a movable piece is driven, and a game sphere cannot enter easily and it is made to become by making the starting mouth 44 into a synizesis state.

[0057] Four hold lamps 34a-34d are formed in the both sides of right and left of the display 52 mentioned above. Furthermore, the general winning-a-prize mouth 50 is formed in the upper part of display 52. Moreover, the large winning-a-prize mouth 38 of a game sphere is formed in the lower part of the game board 14. Near this winning-a-prize mouth 38, the shutter 40 is formed free [ opening and closing ].

When an adjustable display game changes into a great success state, a shutter 40 is driven by the solenoid 48 (not shown) so that it may be in an open state. Moreover, the out mouth (not shown) is prepared in the large winning-a-prize mouth 38 bottom, and the game sphere which did not go into a winning-a-prize mouth etc. will be discharged from an out mouth.

[0058] The winning-a-prize mouths 54a and 54b are specially formed in the both sides of right and left of the display 32 mentioned above. Moreover, the general winning-a-prize mouths 56a and 56b are formed in the edge of right and left of the game board 14, and the general winning-a-prize mouths 56c and 56d are formed in the both sides of right and left of the large winning-a-prize mouth 38.

[0059] Moreover, the starting mouth 44 which has the sphere detection sensor 42 used as the opportunity which shifts to a change display state in the plurality which the adjustable display game mentioned later is started and is displayed on display 32, for example, the pattern which are three identification information, is formed. The large winning-a-prize mouth 38 mentioned above, the starting mouth 44, and when a game sphere wins specially a prize of the winning-a-prize mouths 54a-54b, the general winning-a-prize mouth 50, and 56a-56f, it is made as [ pay / the lower pan 22 / a number of game spheres beforehand set up according to the kind of winning-a-prize mouth ].

[0060] The rolling flare-part material 60a and 60b for guiding the path of a game sphere in the predetermined direction is also formed in the both sides of right and left of display 32 further again. Moreover, the ornament lamps 36a and 36b are formed in the outside upper left-hand side and outside upper right-hand side of the game board 14.

[0061] Moreover, rod-like structure 59a is prepared in the display 52 bottom mentioned above, rod-like structures 59b and 59c are formed in the general winning-a-prize mouth [ 54 ] and 54b bottom, and rod-like structures 59d and 59e are further formed in the both sides of right and left of the starting mouth 44. The rod-like structure 59 (59a-59e) is constituted so that the game sphere which moved reciprocately and collided so that a locus might be drawn on the field above this one point centering on one point, respectively can be rebounded to above or a longitudinal direction. In addition, about operation of the above-mentioned rod-like structure, since it is already explanation settled, explanation here is omitted.

[0062] Moreover, rod-like structure 59b is installed by a tilt angle fixed in the middle of and a bird clapper fixed in the middle of so that a game sphere may be specially guided to winning-a-prize mouth 54a. [ reciprocating movement ] The same is said of rod-like structure 59c, and it is installed so that a game sphere may be specially

guided to winning-a-prize mouth 54b by a tilt angle fixed in the middle of and a bird clapper fixed in the middle of. [ reciprocating movement ]

[0063] Furthermore, rod-like structures 59d and 59e are installed by a tilt angle fixed in the middle of and a bird clapper fixed in the middle of so that a game sphere may be guided to the starting mouth 44. [ reciprocating movement ] That is, when 59d of rod-like structures inclines towards the left, the starting mouth 44 will exist on the abbreviation extension wire of 59d of rod-like structures, and 59d of rod-like structures is installed so that the game sphere which collided with 59d of rod-like structures may tend to go into the starting mouth 44 and may become it. The same is said of rod-like structure 59e.

[0064] In addition, even if the portion which displays the production picture later mentioned in the display 32 mentioned above consists of a liquid crystal display panel, it may consist of the Braun tube. Moreover, in the game board 14 of the pachinko game equipment 10 which is a game machine, although it showed the case where it was prepared in the front center of abbreviation, if display 32 is a position which a game person can see, it is good in the example mentioned above, also as forming display 32 in the position of what of a game machine.

[0065] In addition, although five rod-like structures 59 (59a-59e) are formed in pachinko game equipment 10, in this invention, especially the number of a rod-like structure may not be limited, but may be less than five pieces, and may be six or more pieces. According to the configuration of a rod-like structure, a size, the area of the game board, etc., it can set up suitably.

[0066] Furthermore, the thing equipped with the liquid crystal screen other than a pattern display means to display a pattern also in pachislot game equipment also exists, and such pachislot game equipment makes the game production screen same in the liquid crystal screen as pachinko game equipment display, and tends to raise idea nature in recent years. Therefore, suppose that this invention is applied also in the pachislot game equipment which has such a liquid crystal screen.

[0067] Drawing 6 is the block diagram showing the control circuit of the pachinko game equipment which is the example of this invention.

[0068] The discharge handle 26 mentioned above is connected to the interface-circuitry group 62 of a control circuit 60, and the interface-circuitry group 62 is connected to the input/output bus 64. After the angle signal which shows the rotation angle of the discharge handle 26 is changed into a predetermined signal by the interface-circuitry group 62, it is supplied to an input/output bus 64. The input/output bus 64 is made as [ input / output and / a data signal or an address signal / by the central-process circuit (CPU is called hereafter) 66 ]. Moreover, the sphere detection sensors 42 and 43 are also connected to the interface-circuitry group 62 mentioned above, and when a game sphere passes the starting mouth 44, the sphere detection sensor 42 supplies a detecting signal to the interface-circuitry group 62. The sphere detection sensor 43 supplies a detecting signal to the interface-circuitry group 62, when a game sphere goes into a winning-a-prize mouth

(specially the winning-a-prize mouth 54 and the general winning-a-prize mouths 50 and 56). Furthermore, the sphere passage detector 55 is also connected to the interface-circuitry group 62, and the sphere passage detector 55 supplies a detecting signal to the interface-circuitry group 62, when it detects that the game sphere passed through the near.

[0069] ROM (read-only memory)68 and RAM (random access memory)70 are connected to the input/output bus 64 mentioned above. ROM68 memorizes the control program which controls the flow of the whole game of pachinko game equipment. Furthermore, in case an adjustable display game is performed in display 32, ROM68 The image data of a change display or the change pattern by which it is indicated by halt, the character image data which consists of a dynamic body object displayed as a production screen, The initial data for performing the background-image data which constitute the background of display 32, animation image image data and the sound data used for a game, and a control program, the program which controls the blink operation pattern of the ornament lamp 36 are memorized.

[0070] When indicating the pattern by change in display 32, in case the pattern image data mentioned above indicates by halt, it is used, and it contains the image data according to various display modes, for example, the expanded picture, the reduced picture, the picture which deformed. Moreover, the character image data and background-image data which consist of a dynamic body object mentioned above, and animation image image data are for displaying on display 32 by making into a screen picture a dynamic image, static picture images, or these pictures that were combined, as a game is directed. Furthermore, the character image data which consists of a dynamic body object mentioned above contains the image data corresponding to each of operation that operation of a character should be displayed. Furthermore, it uses in order to utter voice, such as a sound effect, from the loudspeaker 46 which sound data are also for directing a game and mentions them later.

[0071] Moreover, RAM70 memorizes the value of the flag used by the program mentioned above, or a variable. For example, the accumulation reach data, the number of accumulation change, and the number of times of accumulation great success which show the history of the result of an operation by new input data and new CPU66 or a game are memorized.

[0072] By calling and performing a predetermined program, CPU66 which is a control section performs data processing, and controls transmission and others by using as electronic data the character image data and background-image data which consist of a dynamic body object based on the result of this data processing, animation image image data, change pattern image data, and sound data.

[0073] Moreover, CPU66 reads the image data of the change pattern which is the identification information mentioned above, and it controls, or it controls it so that a halt indication of the mutual combination state of the pattern which are two or more identification information is given to predetermined timing in display 32 so that a

change indication of the pattern is given in display 32.

[0074] Furthermore, the interface-circuitry group 72 is also connected to the input/output bus 64. Display 32, a loudspeaker 46, the discharge motor 28, solenoids 48, 51, 57, and 71, the hold lamp 34, and the ornament lamp 36 are connected to the interface-circuitry group 72, and the interface-circuitry group 72 supplies a driving signal and drive power to it that each of the equipment mentioned above according to the result of data processing in CPU66 should be controlled.

[0075] The screen picture of the display 32 which is a display consists of a production picture as which the discernment picture as which a change pattern is displayed, and a production screen are displayed, and is displayed as one picture by piling up these two pictures by control of CPU66, and compounding.

[0076] Thus, especially, by making a production picture into a background, the scene which piles up and compounds two or more pictures, for example, a pattern picture and a production picture, and on which a pattern is changed can be directed, and a colorful display gestalt becomes possible at a twist.

[0077] It is for carrying out the opening-and-closing drive of the \*\*\*\* shutter 40 mentioned above, and a solenoid 48 shows the number of times from which the combination of the pattern displayed on display 32 became effective, and the ornament lamp 36 blinks or turns on the hold lamp 34 for it to show a game person that, when it becomes a time of a game being becoming it a great success, and reach. Moreover, a solenoid 51 drives the movable piece 53 specially prepared in the winning-a-prize mouth 54 (54a-54b), and the winning-a-prize mouth 54 is specially made into an open state, or it makes the winning-a-prize mouth 54 a synzesis state so that a game sphere cannot enter easily and may become so that a game sphere may tend to enter and may become. Moreover, a solenoid 57 drives the movable pieces 58a and 58b prepared in the both sides of the starting mouth 44, and the starting mouth 44 is made into an open state, or it makes the starting mouth 44 a synzesis state so that a game sphere cannot enter easily and may become so that a game sphere may tend to enter and may become. Furthermore, a solenoid 71 operates the rod-like structure 59 prepared in the solenoid 71 so that it may move reciprocately centering on one point.

[0078] A control section consists of CPUs66 mentioned above, a display consists of display 32, and a game machine consists of pachinko game equipment 10.

[0079] The variable used for below in CPU66 which had started pachinko game equipment 10 and was mentioned above shall be initialized by the predetermined value, and shall carry out regular operation.

[0080] Drawing 7 is a flow chart which shows the sub routine which detects the game sphere performed in the control circuit 60 mentioned above. In addition, this sub routine is called and performed to predetermined timing from the control program which controls the pachinko game of the pachinko game equipment 10 currently performed beforehand.

[0081] First, it detects whether it is the no by which the game sphere went into the

winning-a-prize mouth (Step S11). This winning-a-prize mouth is the general winning-a-prize mouth 50, 56a-56d, and the special winning-a-prize mouths 54a-54b in the example shown in drawing 5 mentioned above, for example. In Step S11, when it judges that the game sphere went into the winning-a-prize mouth, processing which pays out a number of game spheres beforehand defined according to the kind of winning-a-prize mouth is performed (Step S12).

[0082] Next, it judges whether the game sphere went into the starting mouth (Step S13). This starting is the starting mouth 44 in the example shown in drawing 5 mentioned above, for example. In this step S13, when it judges that the game sphere went into the starting mouth, the lottery which determines whether a great success state occurs is performed, and an adjustable display game is performed based on the result (Step S14). This adjustable display game is a game which imitated the game made in a slot machine. After displaying two or more change patterns on display 32 and indicating the each by change, When the combination of a pattern when these patterns display that it stops one by one to predetermined timing and the halt display of all patterns is decided turns into a predetermined combination It is a game for shifting a pachinko game to a state advantageous to a game person, and this change display and a halt display are performed as one distance noting that a great success state occurs. When the above-mentioned adjustable display game is performed, in order to excite the interest over a game person's game, with display 32, production pictures, such as an animation which has fixed narrativeness, are also displayed. Therefore, control with the change display of a change pattern and the halt display which are displayed on display 32 by reading and performing the program for CPU66 performing a ROM68 shell adjustable display game at Step S14 performs, and when the combination of the pattern by which it was indicated by halt agrees about a predetermined combination, the control changed into an open state in the shutter 40 of the large winning-a-prize mouth 38 carries out. Furthermore, CPU66 compounds image data, displays the animation which has fixed narrativeness in display 32, or performs control which generates from a loudspeaker BGM doubled with the animation, and a sound effect, heaps up an adjustable display game and performs production which excites the interest over a game person's game.

[0083] Next, it judges whether the game sphere passed the sphere passage detector (Step S15). This sphere passage detector is the sphere passage detectors 55a and 55b in the example shown in drawing 5 mentioned above, for example.

[0084] In this step S15, when a sphere passage detector is judged that the game sphere passed, as mentioned above, processing which usually indicates the pattern by change in display 52 is performed (Step S16). In addition, as mentioned above, when are indicated by change and it becomes [ at which the pattern usually stopped ] a predetermined pattern, a game sphere tends to go into the starting mouth 44, and it is made to become it, as the movable pieces 58a and 58b are driven and it will be in an open state about the starting mouth 44.

[0085] Drawing 8 is a flow chart which shows the sub routine which makes the

solenoid performed in the control circuit 60 mentioned above drive. In addition, this sub routine is called and performed to predetermined timing from the control program which controls the pachinko game of the pachinko game equipment 10 currently performed beforehand.

[0086] First, it judges whether it is the timing which operates a rod-like structure (Step S20). This rod-like structure is rod-like structures 59a-59e in the example shown in drawing 5 mentioned above. In Step S20, when it judges that it is the timing which operates a rod-like structure 59, drive processing which makes a solenoid 71 drive is performed, and the rod-like structure 59 prepared in the solenoid 71 is operated centering on one point (Step S21). For example, when the upper limit of rod-like structure 59a inclines leftward by demagnetizing the solenoid 71 which operates rod-like structure 59a and it judges that it is the timing which operates rod-like structure 59a in Step S20, rod-like structure 59a is rotated and the upper limit of rod-like structure 59a is made to incline rightward by supplying power to a solenoid 71 and exciting a solenoid 71.

[0087] In addition, a judgment whether it is the timing which operates a rod-like structure can be made by the means shown below. That is, time until it operates a rod-like structure is set up beforehand, and when the set-up time passes, in Step S20, it can carry out by making ROM68 memorize the control program judged to be the timing which operates a rod-like structure.

[0088] Next, it judges whether it is the timing which operates the movable piece prepared in the winning-a-prize mouth (Step S22). This winning-a-prize mouth is the winning-a-prize mouths 54a-54b specially in the example shown in drawing 5 mentioned above. When it judges that it is the timing which operates the movable piece 53 in Step S22, drive processing which makes a solenoid 51 drive is performed, the movable piece 53 is operated, the special winning-a-prize mouth 54 which is in the synzesis state is made into an open state, or the special winning-a-prize mouth 54 which is in the open state is made into a synzesis state (Step S23). In addition, when the winning-a-prize mouth is opened wide, you may set up the timing of opening of a winning-a-prize mouth so that it may become the tilt angle into which a game sphere tends to go.

[0089] Next, it judges whether it is the timing which operates the movable piece prepared in the starting mouth (Step S24). This starting mouth is the starting mouth 44 in the example shown in drawing 5 mentioned above. When it judges that it is the timing which operates the movable piece 58 in Step S24, drive processing which makes a solenoid 57 drive is performed, the movable piece 58 is operated, the starting mouth 44 which is in the synzesis state is made into an open state, or the starting mouth 44 which is in the open state is made into a synzesis state (Step S25).

[0090] Next, it judges whether it is the timing which operates the shutter formed near the large winning-a-prize mouth (Step S26). This large winning-a-prize mouth is the large winning-a-prize mouth 38 in the example shown in drawing 5 mentioned

above. When it judges that it is the timing which operates a shutter 40 in Step S26, drive processing which makes a solenoid 48 drive is performed, a shutter 40 is operated, the large winning-a-prize mouth 38 which is in the closing state is made into an open state, or the large winning-a-prize mouth 38 which is in the open state is made into a closing state (Step S27).

[0091] While a winning-a-prize mouth etc. will be in an open state or will be in a synzesis state by performing repeatedly the solenoid drive manipulation routine mentioned above, a rod-like structure will move reciprocately centering on one point.

[0092] As mentioned above, as the rod-like structure prepared on the game board moves reciprocately centering on one point, when it operates like the so-called wiper in the game machine of this invention, complicated movement with the unexpected nature which a game person cannot predict in the game sphere hammered out on the game board, such as, rebounding the game sphere which collided with the rod-like structure concerned to above or a longitudinal direction for example,, either can be given. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere have When the hope about whether a game sphere goes into a winning-a-prize mouth etc. can be given and a game sphere goes into a winning-a-prize mouth etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and fast improvement in interest can be aimed at.

[0093] Moreover, it can make it possible to once launch the game sphere which fell to the game board bottom to a game board top with the position in which a rod-like structure is prepared, the angle at which this rod-like structure moves reciprocately, the sense, etc. A hope can be made to hold again in the whereabouts of the game sphere given up to a game person by doing in this way.

[0094] The program which controls a pachinko game in the example mentioned above, Although the case where ROM68 and RAM70 of pachinko game equipment 10 memorized the program which performs processing which operates the program for detecting the game sphere shown in drawing 7 , the rod-like structure shown in drawing 8 , a winning-a-prize mouth, etc. was shown It is good also as a server and a terminal having data used by the programs mentioned above when it considered as the composition which can perform a pachinko game when an operator operates the terminal connected to the server possible [ communication ], or these programs.

[0095] Thus, when it considers as the composition which consists of a server and a terminal, the server memorizes beforehand the program which performs processing which makes the program which controls a pachinko game, the program for detecting the game sphere shown in drawing 7 , the rod-like structure shown in drawing 8 , a winning-a-prize mouth, etc. drive, and transmits these programs to a terminal to predetermined timing.

[0096] On the other hand, a terminal once memorizes these transmitted programs and advances a pachinko game by beginning to read the program which memorized



suitably and performing it. Moreover, it is good also as performing the program which performs processing which makes the program which controls a pachinko game, the program for detecting the game sphere shown in drawing 7 , the rod-like structure shown in drawing 8 , a winning-a-prize mouth, etc. drive by the server side, and transmitting to a terminal by making into a control signal or control information the instruction generated according to the execution result. In this case, a terminal chooses the picture for performing a pachinko game according to the control signal and control information which were transmitted, generates it, or displays the picture on a display.

[0097] Drawing 9 is the front view showing an example of the terminal when considering as the \*\*\*\* composition mentioned above.

[0098] In the example shown in drawing 9 , a terminal 100 is a general-purpose personal computer, and a game person's alter operation is inputted from the input unit 102 connected to the terminal 100, for example, a keyboard. Moreover, the control section 130 of a terminal 100 consists of CPU108, ROM110, and RAM112 grade which are mentioned later, and the program which controls a pachinko game in this control section 130, and the program which controls an adjustable display game are performed.

[0099] Moreover, this control section 130 also has the communication interface circuit 120 (not shown), and a control section 130 performs communication with the server later mentioned through a communication interface circuit 120, based on the control signal or control information transmitted from a server, a program, and data, a pachinko game is controlled or it controls an adjustable display game.

[0100] Furthermore, the game machine picture which imitated pachinko game equipment as shown in the display 116 connected to the terminal 100 at drawing 9 is displayed, and a pachinko game is performed on this game machine picture. The display 132 by which the adjustable display game mentioned above on this game machine picture is performed is displayed as a picture. In this display 132, the picture of the pattern which is the identification information which was mentioned above is displayed.

[0101] Moreover, when a sub routine as shown in drawing 14 mentioned later is performed in a control section 130, in display 116, the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocately centering on one point in the game board picture within a game machine picture will be displayed.

[0102] Drawing 10 is the front view showing other examples of a terminal. In addition, the same sign was given to the component shown in drawing 9 , and the corresponding component.

[0103] The example of drawing 10 shows the carried type terminal 140, and a game person's alter operation is inputted from the input unit 102 prepared in the terminal 140, for example, a switch. Moreover, the control section 130 (not shown) is formed in the interior of a terminal 140, it consists of CPU108, ROM110, and RAM112 grade

which are mentioned later, and the program which controls a pachinko game and an adjustable display game in this control section 130 is performed.

[0104] Moreover, this control section 130 also has a communication interface circuit 120 (not shown), and a control section 130 performs communication with the server later mentioned through a communication interface circuit 120, and it controls a pachinko game and an adjustable display game based on the control signal or control information transmitted from a server, a program, and data.

[0105] Furthermore, as the display 116 prepared in the upper surface of a terminal 140 consists of a liquid crystal display panel and it was shown in drawing 10, the game machine picture which imitated pachinko game equipment is displayed, and a pachinko game is performed on this game machine picture. The display 132 by which the adjustable display game mentioned above on this game machine picture is performed is displayed as a picture. In this display 132, the picture of the pattern which is the identification information which was mentioned above is displayed.

[0106] Moreover, when a sub routine as shown in drawing 14 mentioned later is performed in a control section 130, in display 116, the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocally centering on one point in the game board picture within a game machine picture will be displayed.

[0107] In the terminal 100 shown in drawing 9 as mentioned above, display 116 serves as another object and consists of control sections 130, various kinds of control signal or control information which were transmitted from the server, such as a display-control signal, are supplied to the control section 130 of a terminal 100, and a control section 130 supplies the status signal which generated and generated the status signal based on the supplied control signal or control information to display 116.

[0108] On the other hand, the terminal 140 shown in drawing 10 is constituted united with display 116, and the control signal or control information which were transmitted from the server, such as a display-control signal, are supplied to the control section 130 of a terminal 140, a control section 130 generates a status signal based on the supplied control signal or control information, and it supplies the generated status signal to display 116. The example shown below is applicable even if it is the composition which was united even if it was the composition that the control section and display of a terminal became another object.

[0109] Drawing 11 is the block diagram showing the terminal 100 mentioned above or the composition of 140 (the terminal unit for pachinko games is called hereafter). Moreover, drawing 11 is the block diagram showing the composition of the server 80 which is connected with this terminal unit for pachinko games through a communication line, and supplies various control signals or control information, and data to the terminal unit for pachinko games.

[0110] The input unit 102, for example, the keyboard, and switch for inputting operation of a game person are connected to the interface circuitry 104 of the

terminal unit 100 for pachinko games, and the interface circuitry 104 is connected to the input/output bus 106. It is made through this input/output bus 106 as [ input / output and / a data signal or an address signal / by the central-process circuit (CPU is called hereafter) 108 ]. ROM (read-only memory)110 and RAM (random access memory)112 are connected to the input/output bus 106. ROM110 and RAM112 memorize the data of the picture for displaying on a program and display 116 which are mentioned later.

[0111] Moreover, the interface-circuitry group 114 is also connected to the input/output bus 106. Display 116 and the loudspeaker 118 are connected to the interface-circuitry group 114, and the interface-circuitry group 114 supplies a status signal and a sound signal to each of display 116 and a loudspeaker 118 according to the result of data processing in CPU108.

[0112] Furthermore, the communication interface circuit 120 is also connected to the input/output bus 106. This communication interface circuit 120 is for carrying out communication with the server 80 later mentioned through communication lines, such as a dial-up line network and a Local Area Network (LAN).

[0113] On the other hand, as shown in drawing 12 , shell composition of the server 80 is carried out with a hard disk drive 88, CPU82, ROM84 and RAM86, and the communication interface circuit 90. A hard disk drive 88 memorizes the program for receiving the program for carrying out communication with the terminal unit for pachinko games, and the information emitted from the terminal unit for pachinko games, the program which controls a pachinko game, and the program which controls an adjustable display game. A communication interface circuit 90 is for carrying out the terminal unit 100 for pachinko games mentioned above through communication lines, such as a dial-up line network and a Local Area Network (LAN), and communication with 140.

[0114] When it considers as composition which was mentioned above, the game machine picture which imitated the pachinko game equipment shown in drawing 9 or drawing 10 is displayed on the display 116 of the terminal unit 100 for pachinko games, and the picture which shows the display 132 for performing a game plate surface, a hold lamp, an ornament lamp, and an adjustable display game and the equipment of the display 152 grade for usually displaying a pattern, and the picture which shows a game sphere are displayed on display 116. In the display 132 for performing this adjustable display game, when an adjustable display game is performed, the picture of the pattern which is identification information is displayed.

[0115] Hereafter, the sub routine by which executive operation is carried out in each of the terminal unit for pachinko games and a server is shown in drawing 13 - drawing 15 .

[0116] The terminal unit 100 for pachinko games or 140, and a server 80 shall be started beforehand below, and shall carry out regular operation. Moreover, the variable used in CPU108 and CPU82 which were mentioned above shall be initialized by the predetermined value. In addition, in the following explanation, each of

equipments, such as a winning-a-prize mouth, a starting mouth, and a sphere passage detector, or a game sphere is displayed as a picture in display 116.

[0117] Drawing 13 – drawing 15 are predetermined timing when the terminal unit 100 for pachinko games or 140 is started. A server 80 supplies various kinds of programs memorized by the storage of the hard disk drive 88 grade of a server 80 to the terminal unit 100 for pachinko games, or 140. When performing the program supplied in the terminal unit 100 for pachinko games, or 140, it is the flow chart which shows the terminal unit 100 for pachinko games or 140, and the sub routine by which executive operation is carried out in each of a server 80.

[0118] Drawing 13 is a sub routine performed in the terminal unit 100 for pachinko games, or 140, and is called and performed from a main routine to predetermined timing. In addition, this main routine shall include beforehand the program which is needed in case communication with the servers 80, such as a program for judging whether communication with a server 80 is possible, is carried out.

[0119] In case first a pachinko game is gone on in the program for performing a pachinko game, and the terminal unit for pachinko games from a server 80, required image data and sound data are downloaded (Step S31). Required image data is for displaying pictures of the rod-like structure picture displayed in the game machine picture which imitated pachinko game equipment, and the mode which moves reciprocately centering on one point, a background image, or a change pattern, such as a picture and a character picture, on display 116, and the above-mentioned sound data are sound data by which BGM, a sound effect, voice, etc. are generated.

[0120] Subsequently, when a game person operates an input unit 102, a pachinko game is started and executive operation of the game program is carried out (Step S32). This game program includes the game program which controls a pachinko game, the program for performing the adjustable display game mentioned above, and the program concerning the game image processing on which a game board picture, a game sphere picture, etc. are displayed.

[0121] Moreover, when a game program is performed in the terminal unit 100 for pachinko games, or 140, it detects that the game person operated the input unit 102. When it detects that the game person operated the input unit 102, as mentioned above, the display 132 which the game machine picture which imitated pachinko game equipment is displayed on the terminal unit 100 for pachinko games or the display 116 of 140, and displays an adjustable display game on this game machine picture is also displayed. Furthermore, when a game person operates an input unit 102 that a game sphere should be discharged, the picture of the game sphere which can be checked by looking so that a game sphere may move in a game plate surface top is displayed on a game machine picture. In addition, suppose that it explains later using a drawing about the game image display manipulation routine performed when game executive operation of Step S32 is performed.

[0122] Next, it judges whether the game sphere went into the winning-a-prize mouth (Step S33). This winning-a-prize mouth is a picture portion equivalent to the special

winning-a-prize mouths 54a-54b shown in drawing 5 mentioned above, the general winning-a-prize mouth 50, and 56a-56d. In addition, when the picture equivalent to a movable piece is specially displayed near the winning-a-prize mouth 54 (54a-54b) and predetermined conditions are fulfilled, it displays that the picture equivalent to the above-mentioned movable piece will be in an open state temporarily, and processing which a game sphere tends to go into the winning-a-prize mouth 54, and becomes to it specially is performed.

[0123] When it judges that the game sphere went into the winning-a-prize mouth, processing which pays out the game sphere of the number according to the kind is performed (Step S34). In addition, processing of this step S34 is good in the terminal unit 100 for pachinko games, or 140 also as memorizing the number of game spheres to RAM112 also as displaying the number of game spheres on one position of the display 116.

[0124] Next, it judges whether the game sphere went into the starting mouth (Step S35). This starting mouth is a picture portion equivalent to the starting mouth 44 shown in drawing 5 mentioned above.

[0125] In this step S35, when it judges that the game sphere went into the starting mouth, the adjustable display game mentioned above is performed (Step S36). In addition, when an adjustable display game is performed, in the display 132 shown in drawing 9 and drawing 10, the picture and character picture of a background image or a change pattern are displayed.

[0126] Furthermore, it judges whether the game sphere passed the sphere passage detector (Step S37). This sphere passage detector is a picture portion equivalent to the sphere passage detectors 55a and 55b shown in drawing 5 mentioned above. In this step S37, when a sphere passage detector is judged that the game sphere passed, processing which usually indicates the pattern by change in display 52 is performed (Step S38).

[0127] In addition, as mentioned above, when are indicated by change and it becomes [ at which the pattern usually stopped ] a predetermined pattern, the picture which can be checked by looking so that the movable pieces 58a and 58b may be driven and the starting mouth 44 may be in an open state is displayed, and processing which a game sphere tends to go into the starting mouth 44, and becomes to it is performed.

[0128] Next, it judges whether the game was completed or not (Step S39). Judgment whether the game was completed or not judges that the game ended them when only the time of detecting having operated the input unit 102 and the number with which the game sphere was defined beforehand judged having been discharged by the game plate surface, in order that a game person may end a game. When it judges that the game is not completed, processing is returned to Step S32 mentioned above.

[0129] On the other hand, when it judges that the game was completed, the game result which shows the number of the discharged game spheres, the number of the

repaid game spheres, etc., and the game end information which shows that the game was completed are transmitted to a server 80 (Step S40), and this sub routine is ended.

[0130] Drawing 14 is a flow chart which shows the sub routine which performs game image display processing performed when game executive operation mentioned above is performed. This sub routine is a sub routine performed in Step S32, when processing of Steps S32-S39 mentioned above is performed repeatedly.

[0131] First, the game board picture equivalent to the game board is chosen, and screen configuration information is generated (Step S701). This game board picture is a picture portion equivalent to the game board 14 shown in drawing 5 mentioned above. Moreover, the picture equivalent to an obstacle nail, the picture equivalent to rolling flare-part material, etc. are included in the above-mentioned game board picture.

[0132] Next, the display picture equivalent to a display is chosen and screen configuration information is generated (Step S702). The above-mentioned display picture is a picture including a production picture, a change pattern picture, etc. Therefore, CPU108 chooses this production picture, a change pattern picture, etc. in the mode according to the game situation, and generates screen configuration information.

[0133] Next, a winning-a-prize mouth picture, a starting mouth picture, and a large winning-a-prize mouth picture are chosen, and screen configuration information is generated (Step S703). The special winning-a-prize mouths 54a-54b which showed the above-mentioned winning-a-prize mouth picture to drawing 5 mentioned above, And it is a picture equivalent to the general winning-a-prize mouth 50 and 56a-56d. When the picture equivalent to the movable piece 53 is specially displayed near the winning-a-prize mouth 54 (54a-54b) and predetermined conditions are fulfilled, it displays that the picture equivalent to the movable piece 53 will be in an open state temporarily, and processing which a game sphere tends to go into the winning-a-prize mouth 54, and becomes to it specially is performed. Moreover, the above-mentioned starting mouth picture is a picture equivalent to the starting mouth 44 shown in drawing 5 mentioned above, the picture which can check by looking so that the movable piece 58 operates and a starting mouth 44 may be in an open state, when a pattern usually turns into a predetermined pattern by which it was indicated by change in Step S38 mentioned above displays, and processing so that are easy entering and a game sphere may become to a starting mouth 44 carries out. When the above-mentioned large winning-a-prize mouth picture is a picture equivalent to the large winning-a-prize mouth 38 shown in drawing 5 mentioned above, the picture equivalent to a shutter 40 displays near the large winning-a-prize mouth 38 and it changes into a great success state, it displays that the picture equivalent to a shutter 40 will be in an open state intermittently, and the processing which a game sphere tends to go into the large winning-a-prize mouth 38, and becomes to it carries out.

[0134] Next, the rod-like structure picture equivalent to a rod-like structure is chosen, and screen configuration information is generated (Step S704). The above-mentioned rod-like structure picture is a picture equivalent to the rod-like structure 59 shown in drawing 5 mentioned above, and is a picture displayed in the mode which moves reciprocately centering on one point.

[0135] Next, a game sphere picture is chosen and screen configuration information is generated (Step S705). When the above-mentioned game sphere picture collides with the picture equivalent to the obstacle nail which is the picture displayed on the above-mentioned game board picture, is displayed in the mode which falls after hammering out on this game board picture, and is contained in the above-mentioned game board picture, the picture equivalent to rolling flare-part material, etc., it is a picture which changes travelling direction and falls. Moreover, when the above-mentioned game sphere picture collides with the rod-like structure picture currently displayed in the mode which moves reciprocately, it will be displayed in the mode which rebounds upon above or a longitudinal direction.

[0136] Next, it judges whether it is the timing which operates a rod-like structure (Step S720). When it is judged that it is the timing which operates a rod-like structure, a rod-like structure picture is chosen in the mode which operates centering on one point, and screen configuration information is generated (Step S721).

[0137] Next, it judges whether it is the timing which operates a winning-a-prize mouth (movable piece) (Step S722). When it is judged that it is the timing which operates a winning-a-prize mouth (movable piece), a winning-a-prize mouth picture is chosen in the mode which operates a movable piece, and screen configuration information is generated (Step S723).

[0138] Next, it judges whether it is the timing which operates a starting mouth (movable piece) (Step S724). When it is judged that it is the timing which operates a starting mouth (movable piece), a starting mouth picture is chosen in the mode which operates a movable piece, and screen configuration information is generated (Step S725).

[0139] Next, it judges whether it is the timing which operates a large winning-a-prize mouth (shutter) (Step S726). When it is judged that it is the timing which operates a large winning-a-prize mouth (shutter), a large winning-a-prize mouth picture is chosen in the mode which operates a shutter, and screen configuration information is generated (Step S727).

[0140] Step S701- Based on the screen configuration information generated in S704, S721, S723, S725, and S727, required image data is read among the above-mentioned image data which received in Step S31, and after considering as the image data displayed on display 116, it is displayed on display (Step S728). By performing repeatedly Steps S701-S705 mentioned above and processing of S720-S728, as shown in drawing 9 and drawing 10, a game board picture etc. is displayed in display 116.

[0141] Drawing 15 is a flow chart which shows the sub routine performed in a server 80 corresponding to the terminal side manipulation routine performed in the terminal unit 100 for pachinko games shown in drawing 14 , or 140.

[0142] It judges whether first, the terminal unit 100 for pachinko games or 140 is started, and it is in the state which can communicate (Step S51). When it is judged that the terminal unit 100 for pachinko games or 140 is not started, processing is returned to Step S51.

[0143] On the other hand, when it judges that the terminal unit 100 for pachinko games or 140 is started, various kinds of program and various kinds of image data are transmitted to the terminal unit 100 for pachinko games, or 140 (Step S52). Processing of this step S52 is equivalent to processing of Step S31 of drawing 13 mentioned above.

[0144] As mentioned above, the program transmitted to the terminal unit 100 for pachinko games, or 140 in Step S52 The game program which controls a pachinko game, and the program for performing the adjustable display game mentioned above, It is for displaying the picture of the game machine picture, the background image, and the change pattern which various kinds of image data imitated pachinko game equipment and, a character picture, etc. on display 116 including the program concerning the game image processing on which a game board picture, a game sphere picture, etc. are displayed.

[0145] Next, it judges whether the information which shows the purport which the game result and the game ended was transmitted from the terminal unit 100 for pachinko games, or 140 (Step S53). This step S53 is equivalent to Step S40 of drawing 13 mentioned above. In Step S53, when it judges that neither a game result nor game end information is transmitted from the terminal unit 100 for pachinko games, or 140, processing is returned to Step S53. In addition, in the terminal unit 100 for pachinko games, or 140, while processing of Steps S32-S39 shown in drawing 13 is performed, processing of Step S53 which set server 80 and was mentioned above is performed repeatedly.

[0146] On the other hand, when it is judged in Step S53 that a game result and game end information were transmitted from the terminal unit 100 for pachinko games or 140, a game result and game end information are received (Step S54), and this sub routine is ended.

[0147] Since the program and various kinds of image data for performing a pachinko game are always transmitted from a server 80 before a game is started in the terminal unit 100 for pachinko games, or 140 when it considers as composition which was mentioned above, when a program and image data are updated in a server 80, the game person can always enjoy the newest game.

[0148] Moreover, when it considers as such composition, in display 116, the program on which the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocately centering on one point in the game board picture within a game machine picture is displayed is stored in the storage which the



hard disk drive 88 grade of a server 80 can computer read.

[0149] By considering as such composition, in a game board picture, a rod-like structure picture the game sphere picture it was made to display that it was made to display in the mode which moves reciprocately centering on one point, for example, collided with the rod-like structure picture concerned — a longitudinal direction — bounding — \*\*\*\*\* — making it display like etc. Complicated movement with the unexpected nature which a game person cannot predict in a game sphere picture, either can be given and displayed, without giving a game person sense of incongruity etc. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere picture to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere picture have When the hope about whether a game sphere picture enters can be given to a winning-a-prize mouth picture etc. and a game sphere picture goes into a winning-a-prize mouth picture etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and the storage which can aim at fast improvement in interest can be offered.

[0150] Moreover, the game sphere picture which moved to the game board picture bottom can once be displayed in the mode launched to a game board picture top with the position on which a rod-like structure picture is displayed, the angle at which this rod-like structure picture moves reciprocately, the sense, etc., without giving a game person sense of incongruity etc. A hope can be made to hold again in the whereabouts of the game sphere picture given up to a game person by doing in this way.

[0151] In this invention, as explained using drawing 13 – drawing 15 , the hard disk drive 88 grade of a server 80 various kinds of programs memorized by the storage Although it is possible to consider as the composition which performs the program to which the server 80 supplied the terminal unit 100 for pachinko games or 140, and was supplied in the terminal unit 100 for pachinko games or 140 Furthermore, the terminal unit 100 for pachinko games or ROM110 of 140 makes the program for controlling a pachinko game, the program for performing an adjustable display game, etc. memorize beforehand. It is possible to consider as the composition which transmits suitably only various kinds of image data which is needed as a pachinko game advances, and sound data from a server 80.

[0152] To display the rod-like structure picture which is equivalent to a rod-like structure in display 116 in the mode which moves reciprocately centering on one point in the game board picture within a game machine picture, when it considers as such composition, a server 80 transmits image data, a control program, etc. to the terminal unit 100 for pachinko games, or 140, and a server 80 controls the terminal unit 100 for pachinko games which is a terminal, or 140.

[0153] By considering as such composition, in a game board picture, a rod-like structure picture the game sphere picture it was made to display that it was made to display in the mode which moves reciprocately centering on one point, for

example, collided with the rod-like structure picture concerned — a longitudinal direction — bounding — \*\*\*\*\* — making it display like etc. Complicated movement with the unexpected nature which a game person cannot predict in a game sphere picture, either can be given and displayed, without giving a game person sense of incongruity etc. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere picture to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere picture have When the hope about whether a game sphere picture enters can be given to a winning-a-prize mouth picture etc. and a game sphere picture goes into a winning-a-prize mouth picture etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and the storage which can aim at fast improvement in interest can be offered.

[0154] Moreover, the game sphere picture which moved to the game board picture bottom can once be displayed in the mode launched to a game board picture top with the position on which a rod-like structure picture is displayed, the angle at which this rod-like structure picture moves reciprocately, the sense, etc., without giving a game person sense of incongruity etc. A hope can be made to hold again in the whereabouts of the game sphere picture given up to a game person by doing in this way.

[0155] Moreover, when a picture, a background image, a character picture, its method of presentation, sound data, etc. of a change pattern are updated in a server 80, image data with the terminal unit 100 for pachinko games or 140, sound data, a control program, etc. will be transmitted from a server 80. [ always new ] Therefore, the game person can enjoy the newest production screen in the terminal unit 100 for pachinko games, or 140.

[0156] Only the game program which controls a pachinko game further at this invention, and the program for performing an adjustable display game are transmitted from a server 80, and it is also possible to consider as the composition to which image data and sound data read suitably the image data which is beforehand memorized by the terminal unit 100 for pachinko games or ROM110 of 140, and is needed, sound data, etc. from ROM110.

[0157] When it considers as such composition, in the terminal unit 100 for pachinko games which is a terminal, or the display 116 of 140, the program on which the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocately centering on one point in the game machine picture within a game machine picture is displayed is memorized by the storage which the hard disk drive 88 grade of a server 80 can computer read. Moreover, since the control program for performing an adjustable display game is always downloaded when an adjustable display game is started, although a game person needs to download neither about image data nor sound data while being able to enjoy the newest adjustable display game therefore, he can display the production picture promptly in the terminal unit 100 for pachinko games, or the display 116 of 140.

[0158] Furthermore, it is also possible to consider as the composition a server 80 remembers programs, such as a program for controlling a pachinko game by this invention and a program for performing an adjustable display game, to be, and the terminal unit 100 for pachinko games or ROM110 of 140 remembers the image data which a pachinko game and an adjustable display game need to be. At this time, a server 80 performs advance of a pachinko game, the terminal unit 100 for pachinko games or 140 will choose a picture according to the control signal or control information transmitted according to advance of a pachinko game performed in the server 80, and the selected picture will be displayed on display 116.

[0159] When it considers as such composition, in the terminal unit 100 for pachinko games which is a terminal, or the display 116 of 140, a server 80 controls the terminal unit 100 for pachinko games, or 140 to display the rod-like structure picture which is equivalent to a rod-like structure in the mode which moves reciprocally centering on one point in the game machine picture within a game machine picture.

[0160] By considering as composition which was mentioned above, in a game board picture, a rod-like structure picture the game sphere picture it was made to display that it was made to display in the mode which moves reciprocally centering on one point, for example, collided with the rod-like structure picture concerned -- a longitudinal direction -- bounding -- \*\*\*\*\* -- making it display like etc.

Complicated movement with the unexpected nature which a game person cannot predict in a game sphere picture, either can be given and displayed, without giving a game person sense of incongruity etc. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere picture to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere picture have When the hope about whether a game sphere picture enters can be given to a winning-a-prize mouth picture etc. and a game sphere picture goes into a winning-a-prize mouth picture etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and the storage which can aim at fast improvement in interest can be offered.

[0161] Moreover, the game sphere picture which moved to the game board picture bottom can once be displayed in the mode launched to a game board picture top with the position on which a rod-like structure picture is displayed, the angle at which this rod-like structure picture moves reciprocally, the sense, etc., without giving a game person sense of incongruity etc. A hope can be made to hold again in the whereabouts of the game sphere picture given up to a game person by doing in this way.

[0162]

[Effect of the Invention] As the rod-like structure prepared on the game board moves reciprocally centering on one point, when it operates like the so-called wiper according to this invention, complicated movement with the unexpected nature which a game person cannot predict in the game sphere hammered out on the game board, such as, rebounding the game sphere which collided with the rod-like

structure concerned to above or a longitudinal direction for example,, either can be given. Therefore, can impress an unexpected feeling and \*\*\*\*\* in the movement of a game sphere to a game person, and further, while making interest to the extent that it cannot look aside to the whereabouts of a game sphere have When the hope about whether a game sphere goes into a winning-a-prize mouth etc. can be given and a game sphere goes into a winning-a-prize mouth etc., a game person's feeling of fullness and feeling of achievement can be uplifted, and fast improvement in interest can be aimed at.

[0163] Moreover, it can make it possible to once launch the game sphere which fell to the game board bottom to a game board top with the position in which a rod-like structure is prepared, the angle at which this rod-like structure moves reciprocally, the sense, etc. A hope can be made to hold again in the whereabouts of the game sphere given up to a game person by doing in this way.

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[Translation done.]

**\* NOTICES \***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

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**DESCRIPTION OF DRAWINGS**

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[Brief Description of the Drawings]

[Drawing 1] (a) - (b) is the perspective diagram showing typically a part of game board with which the game machine of this invention was equipped.

[Drawing 2] (a) is the cross section showing typically a part of game board with which the game machine of this invention was equipped, and (b) is the perspective diagram. (c) is the cross section showing typically a part of game board with which the game machine of this invention was equipped, and (d) is the perspective diagram.

[Drawing 3] (a) - (b) is the perspective diagram showing typically a part of game board with which the game machine of this invention was equipped.

[Drawing 4] It is the front view showing the pachinko game equipment by this invention typically.

[Drawing 5] It is the expansion front view showing typically the game plate surface of the pachinko game equipment by this invention.

[Drawing 6] It is the block diagram showing the control circuit of the pachinko game equipment which is the example of this invention.

[Drawing 7] It is the flow chart which shows the sub routine of processing which detects the game sphere performed in pachinko game equipment.

[Drawing 8] It is the flow chart which shows the sub routine of processing which makes the solenoid performed in pachinko game equipment drive.

[Drawing 9] It is the general-view view showing an example of the terminal for pachinko games.

[Drawing 10] It is the general-view view showing other examples of the terminal for pachinko games.

[Drawing 11] It is the block diagram showing the control circuit of the terminal unit for pachinko games which is the example of this invention.

[Drawing 12] It is the block diagram showing the control circuit of the server which is the example of this invention.

[Drawing 13] It is the flow chart which shows the sub routine performed in the terminal unit 100 for pachinko games which is the example of this invention, or 140.

[Drawing 14] It is the flow chart which shows the sub routine of the game image processing called and performed in Step S32 of a sub routine shown in drawing 13 .

[Drawing 15] In the server 80 which is the example of this invention, it is the flow chart which shows the sub routine performed.

[Description of Notations]

10 Pachinko Game Equipment (Game Machine)

32 Display (Display)

59,159,259,359 Rod-like structure

60 Control Circuit

66 CPU (Control Section)

64 Input/output Bus

68 ROM

70 RAM

80 Server

100 Terminal Unit for Pachinko Games (Terminal)

132 Display

140 Terminal Unit for Pachinko Games (Terminal)

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[Translation done.]

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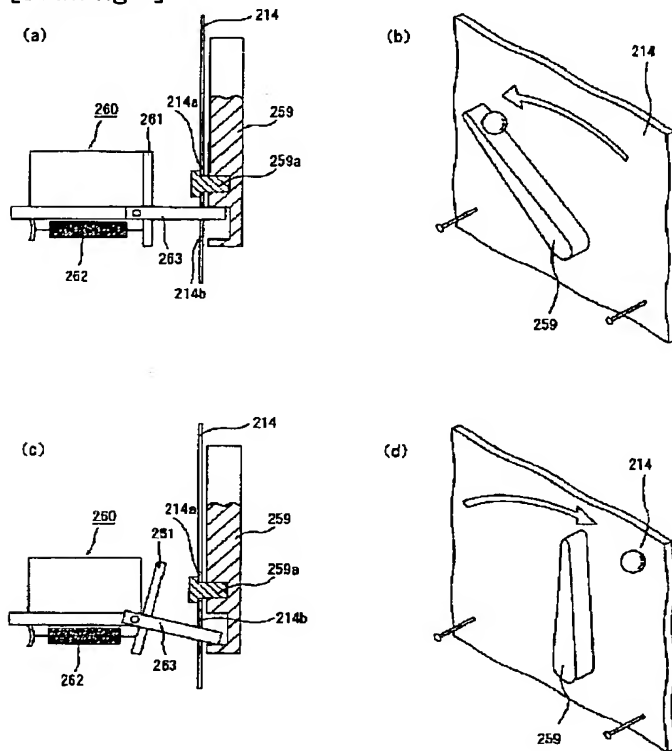
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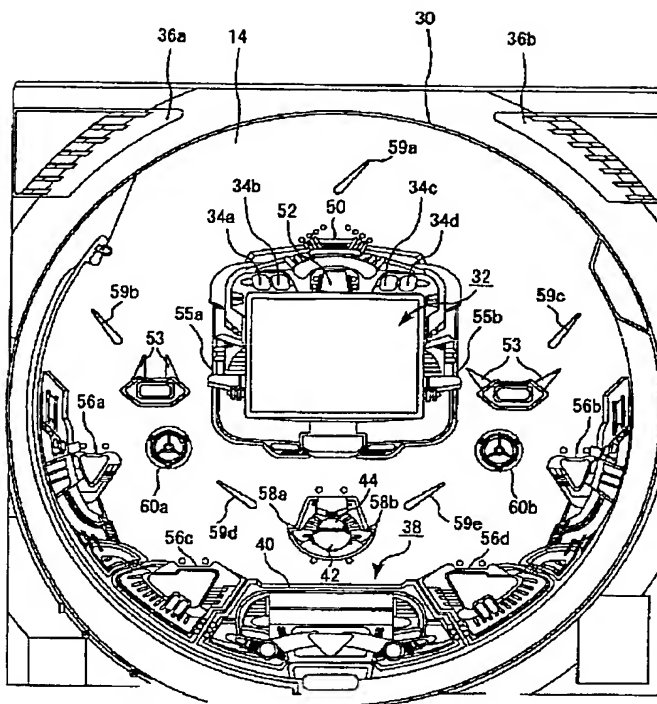
## DRAWINGS

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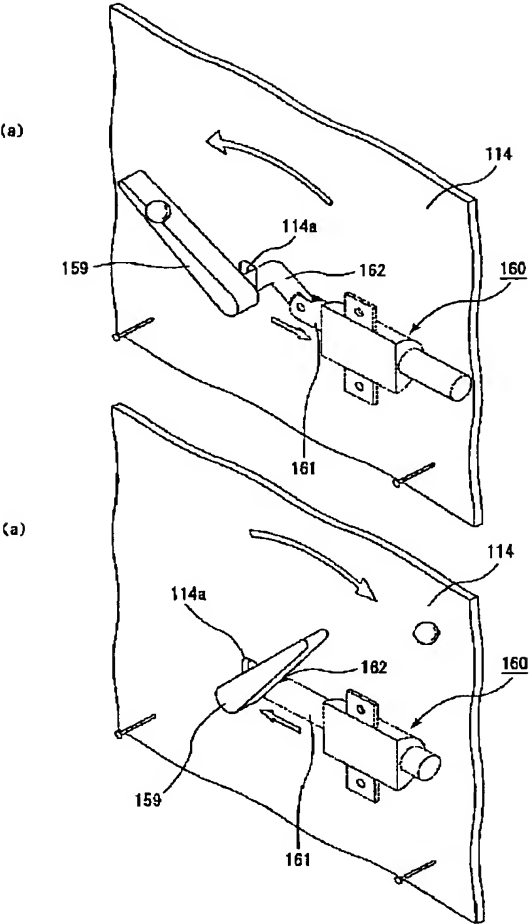
[Drawing 2]



[Drawing 5]

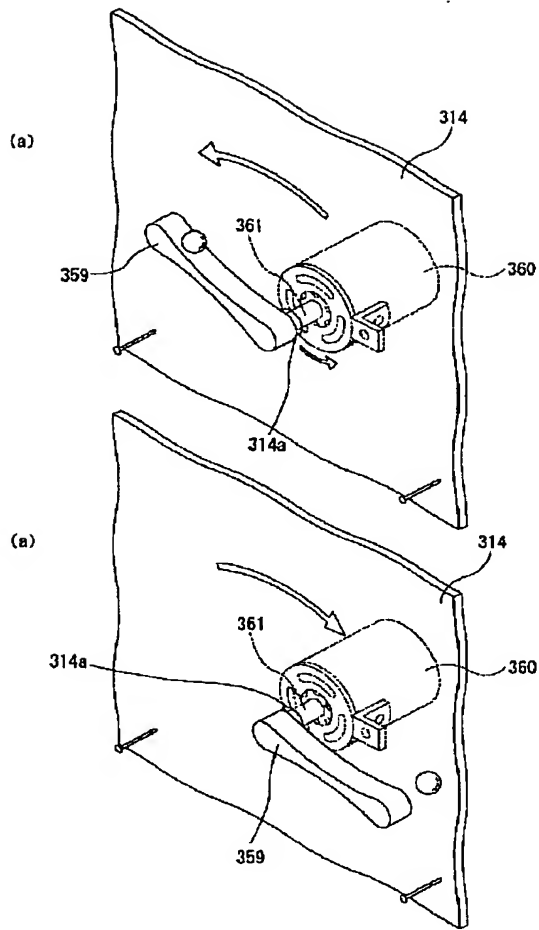


[Drawing 1]

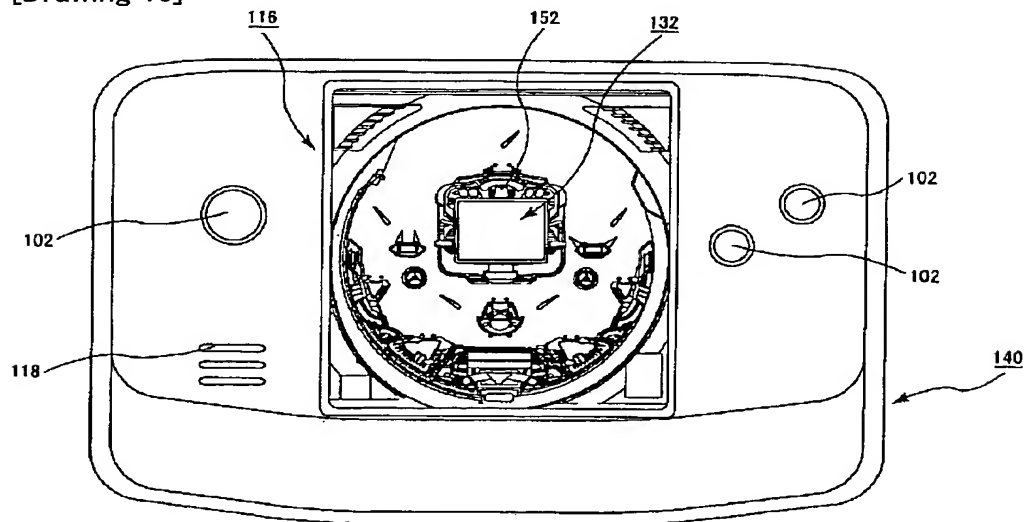


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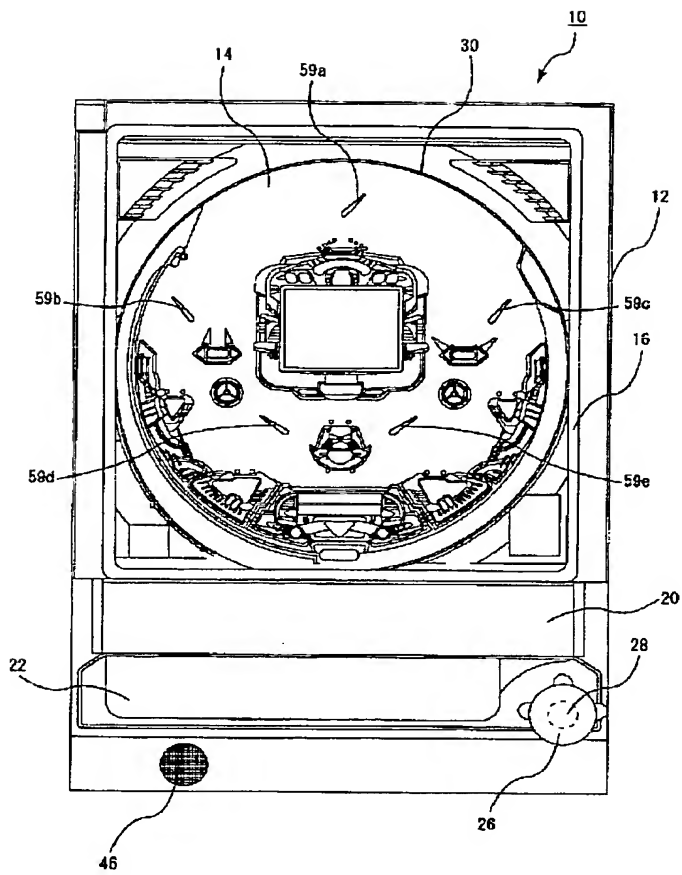




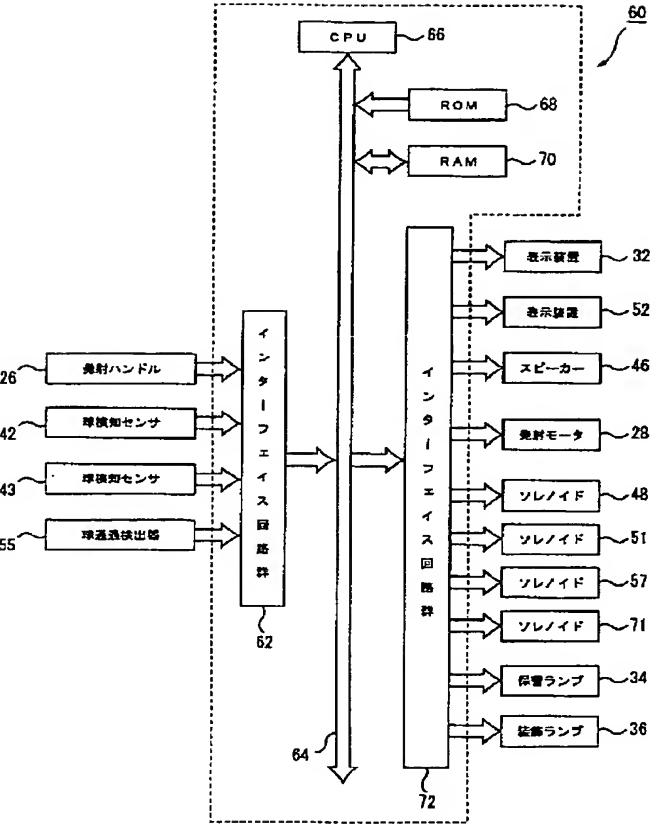
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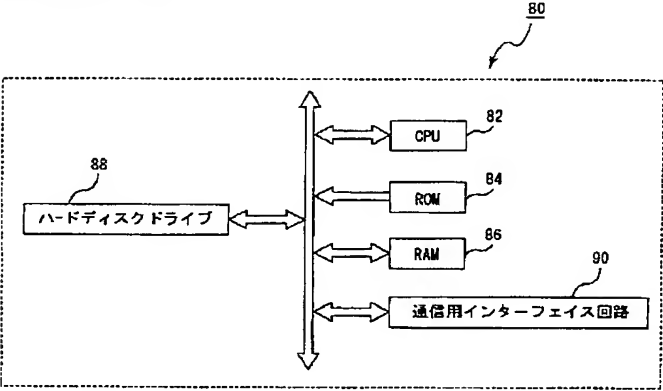
[Drawing 4]



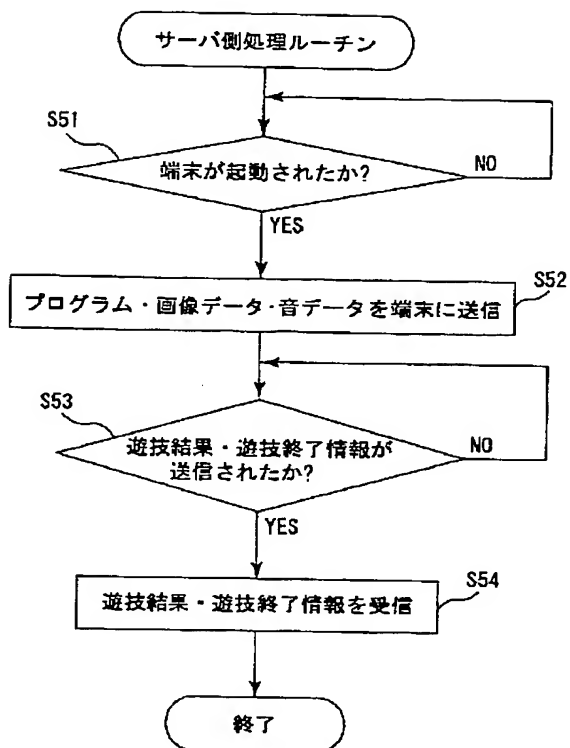
[Drawing 6]



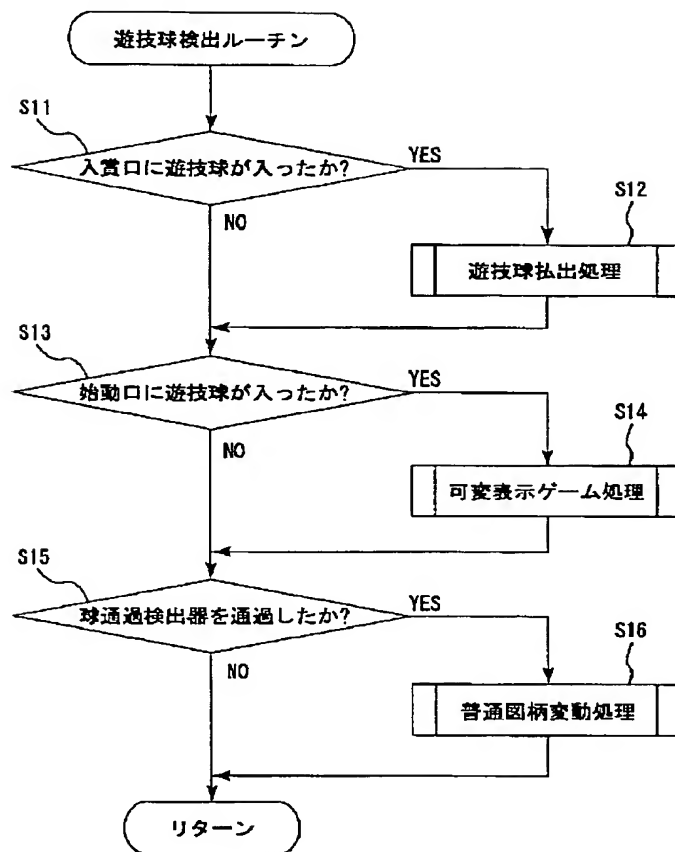
[Drawing 12]



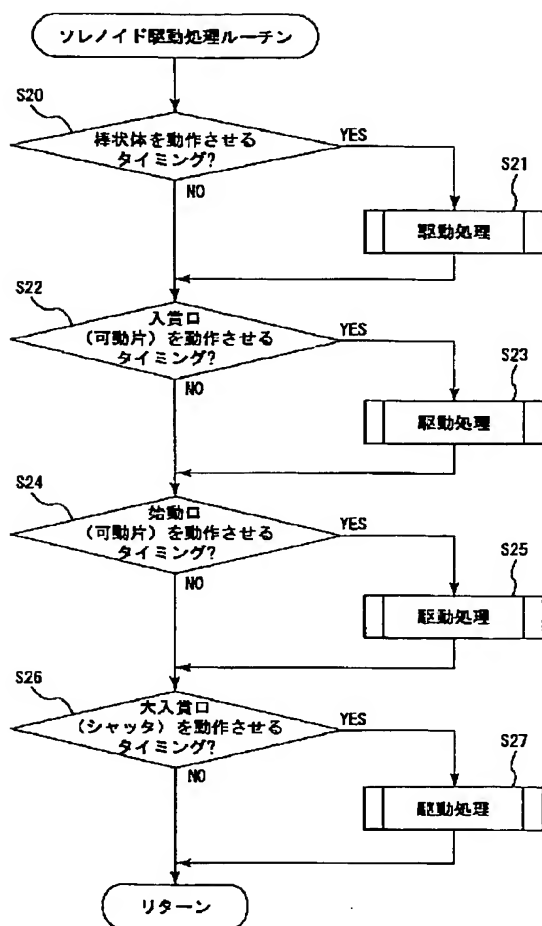
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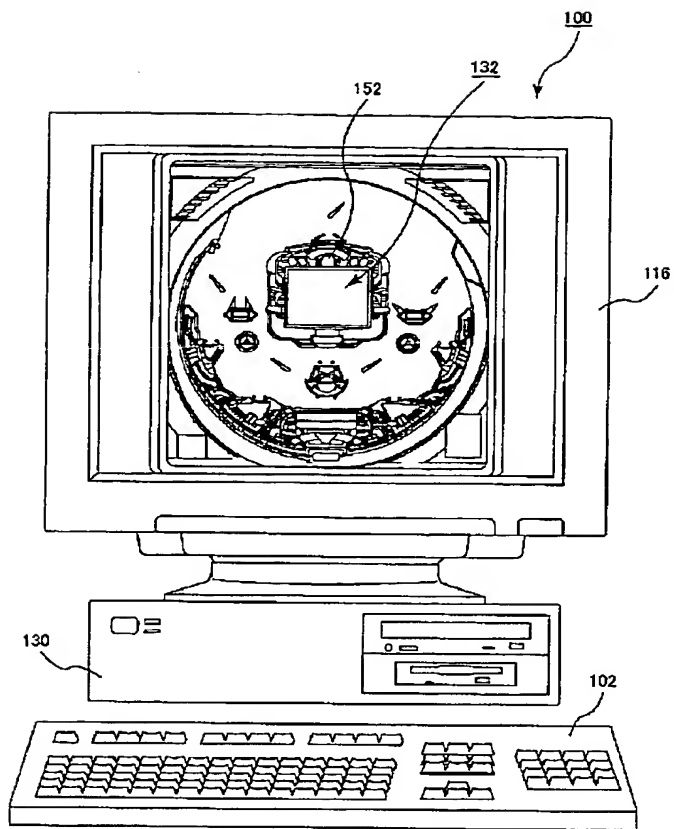
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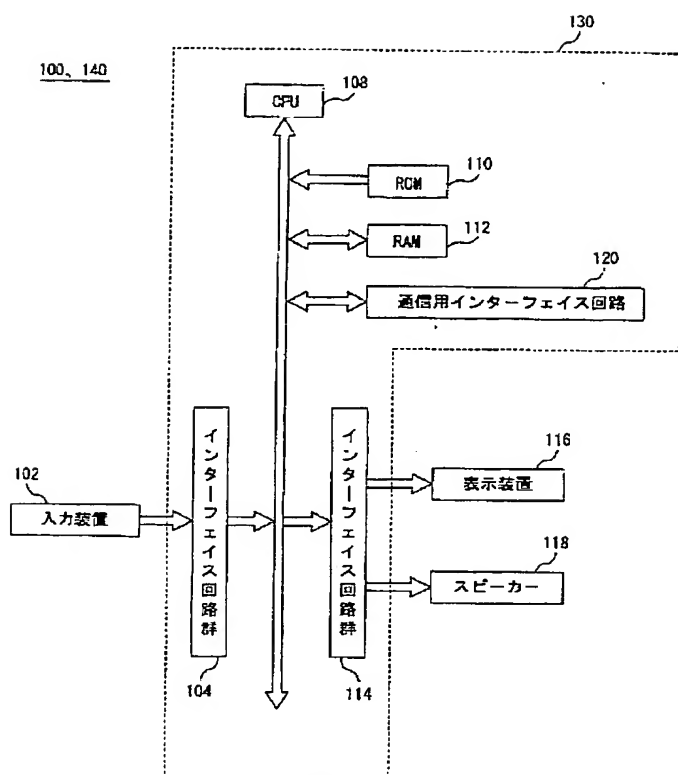
[Drawing 8]



[Drawing 9]

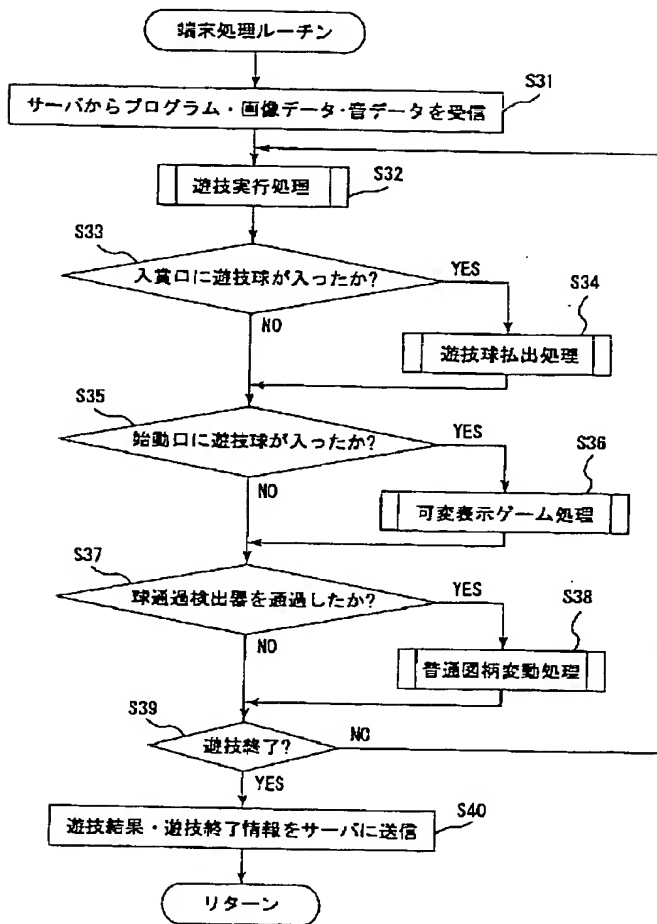


[Drawing 11]

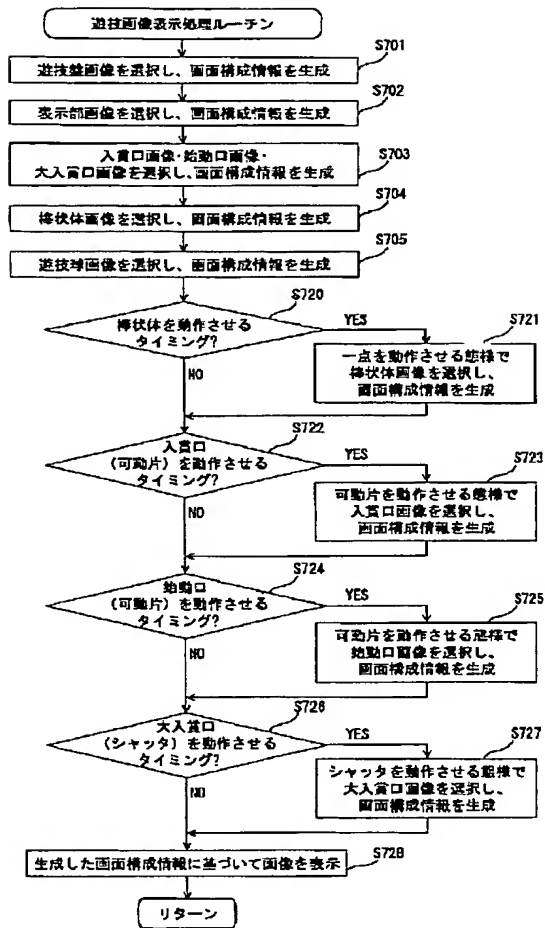


[Drawing 13]





[Drawing 14]



[Translation done.]